



通訊事務管理局
COMMUNICATIONS
AUTHORITY

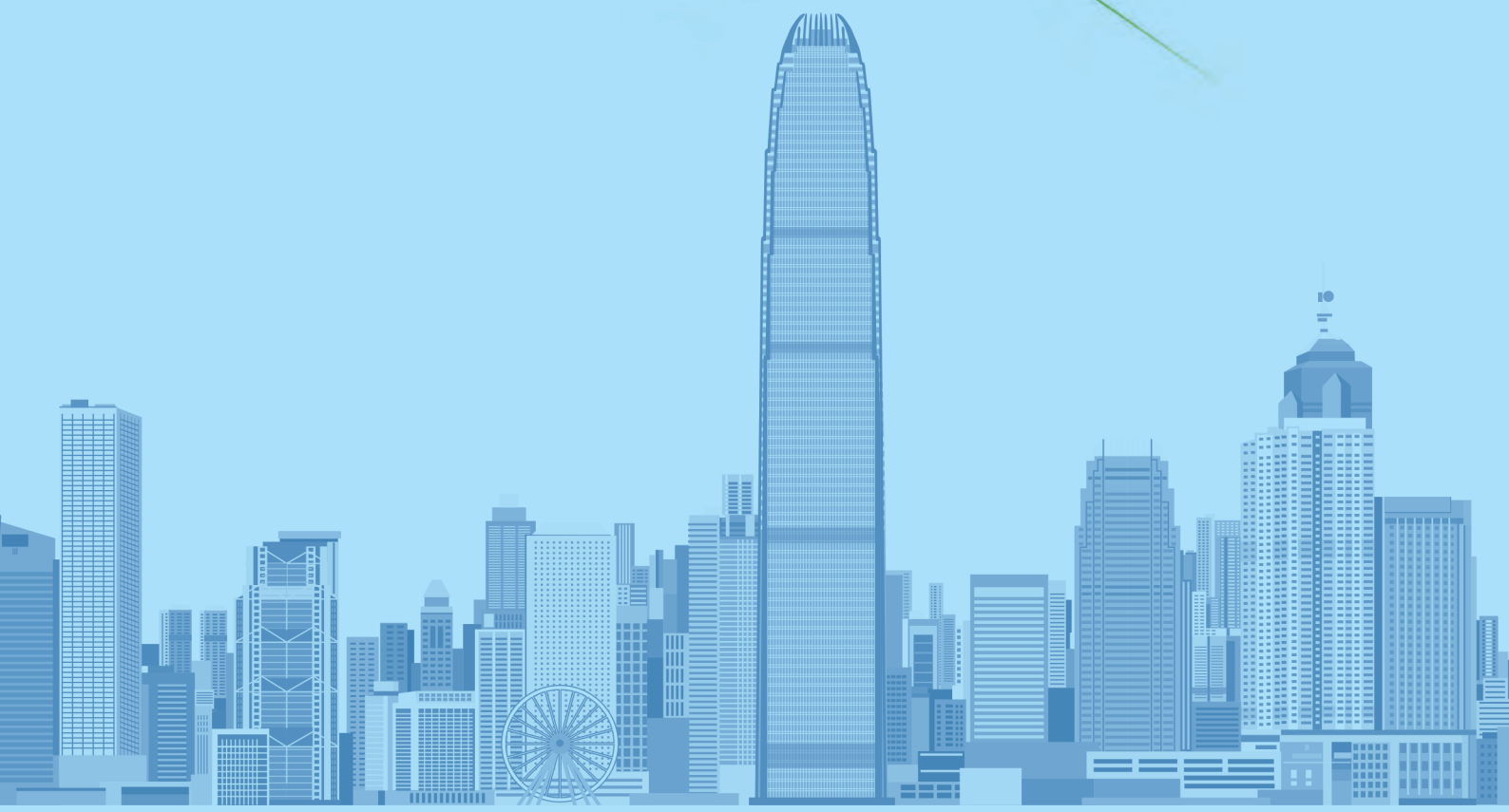
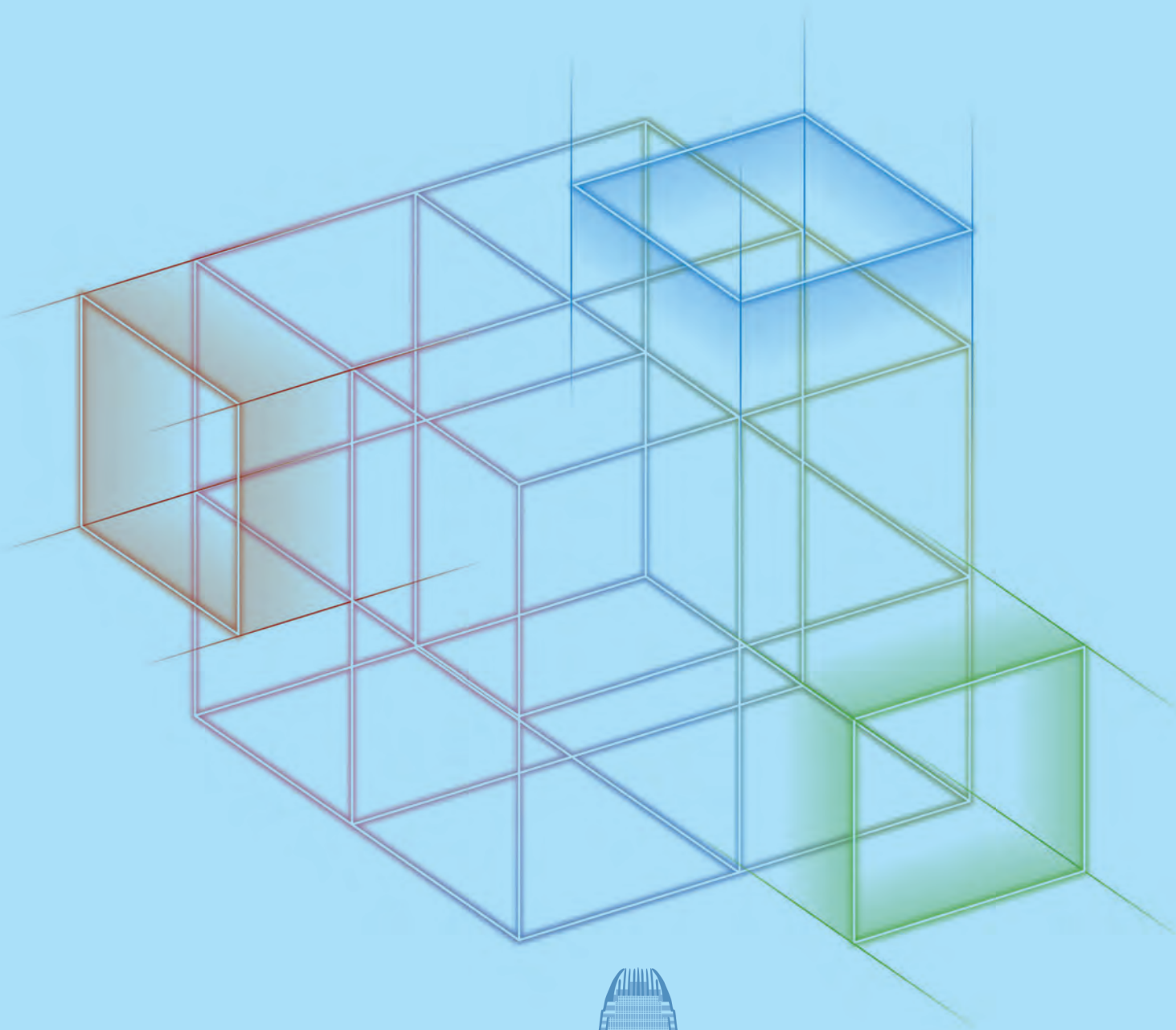


ANNUAL REPORT **2018-19** 年報

Contents

- 2 **Chapter 1:** Vision and Mission
- 4 **Chapter 2:** Chairman’s Message
- 8 **Chapter 3:** Members of the Communications Authority
- 10 **Chapter 4:** Role and Functions of the Communications Authority
- 14 **Chapter 5:** Overview of Major Developments in the Communications Market
- 40 **Chapter 6:** Review of the Communications Authority’s Major Tasks
- 60 **Chapter 7:** Acknowledgement
- 62 **Annex 1 :** Summary of Non-domestic Television Programme Services
- 64 **Annex 2 :** Types and Numbers of Telecommunications Licences
- 65 **Annex 3 :** Glossary

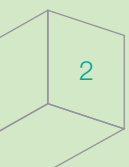






Vision

Our vision is that Hong Kong has the world-class communications services to meet the challenges of the information age.





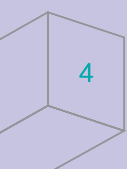
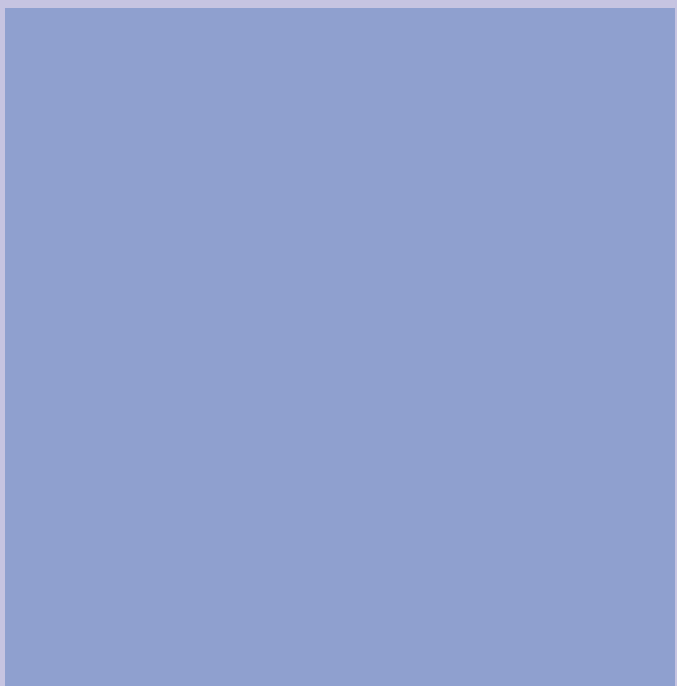
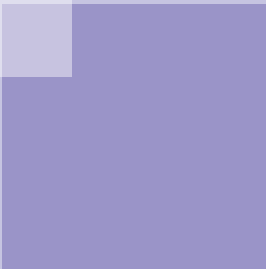
Mission

- fostering an environment that supports a vibrant communications sector to enhance Hong Kong's position as a communications hub in the region;
- encouraging innovation and investment in the communications market;
- promoting competition and adoption of best practices in the communications market for the benefit of the industry and consumers; and
- acting in a manner consistent with the provisions of the Hong Kong Bill of Rights Ordinance (Cap. 383).





Chairman's Message





It is a great pleasure for me to present this report of the Communications Authority (the Authority), which provides a detailed account of the tasks undertaken by the Authority for the year ending 31 March 2019 and the challenges ahead.



A Vibrant Broadcasting Market

Review of Television and Sound Broadcasting Regulatory Frameworks by the Government and Implementation of Measures by the Authority to Streamline Administrative Requirements

One of the major tasks of the Authority in 2018/19 was to provide support to the Commerce and Economic Development Bureau (CEDB) in the review of the television and sound broadcasting regulatory frameworks. The review aims to modernise the regulatory frameworks in response to market needs and technological developments. After the review,



CEDB proposed to relax certain restrictions and introduced legislative amendments to give effect to the proposed relaxation measures. Apart from the legislative amendments pursued by CEDB, the Authority also implemented non-legislative measures to streamline administrative requirements with a view to further facilitating the operations of the broadcasting industry.

Rapid Growth of the Telecommunications Market

Hong Kong's telecommunications market continued to flourish during the year under review. By March 2019, the number of mobile subscriptions reached 22.6 million, including around 22 million subscriptions of the third generation (3G) and fourth generation (4G) mobile services. Mobile network operators (MNOs) and mobile virtual network operators (MVNOs) were offering 4G services at affordable prices. Mobile data services were available at downlink speeds of up to 1 100 megabits per second (Mbps) using Long Term Evolution technology. In March 2019, the monthly mobile data usage further surged to 54 860 Terabytes, representing 1.4 times and 2.2 times of the monthly usage over the same period in 2018 and 2017 respectively. The mobile data usage per capita rose to 7 328 Megabytes in March 2019, compared with 5 444 Megabytes in March 2018 and 3 436 Megabytes in March 2017. The increasing popularity of 4G mobile services has further boosted mobile data usage. The Authority will

continue to introduce necessary measures to facilitate the robust development of the mobile services market.

Major Tasks and Challenges in the Coming Year

Looking ahead, we will continue to perform our regulatory functions on the broadcasting front, and to strike a balance between providing a more conducive business environment to broadcasting licensees and the protection of the interests of the audience.

On the telecommunications front, a major priority of the Authority is to make preparations to facilitate the launch of the fifth generation (5G) mobile services. During the year, the Authority and the Secretary for Commerce and Economic Development (SCED) conducted three public consultations to release a total of about 4 500 MHz of spectrum in various frequency bands (the 3.3 GHz, 3.5 GHz, 4.9 GHz, 26 GHz and 28 GHz bands) for the deployment of public mobile services, including 5G services, which is more than eight times of the existing amount of spectrum assigned for second generation (2G), 3G and 4G services. To enable the industry to have a holistic picture of spectrum supply, three joint statements of the Authority and SCED were issued on 13 December 2018 to promulgate their respective decisions on the arrangements for assignment of the concerned spectrum bands by batches from April 2019 as well as the associated spectrum utilisation fee (SUF).



Following the administrative assignment of 400 MHz of spectrum in the 26 GHz and 28 GHz bands in April 2019 to each of the three incumbent MNOs as per their applications for the provision of large scale public mobile services including 5G services, the Authority also invited applications for assignment of the shared spectrum in the 26 GHz and 28 GHz bands from July 2019 for the provision of localised innovative 5G services to specific groups of users on a geographically sharing basis, with a view to driving the development of innovative 5G and smart city applications. In addition, the Authority planned to conduct three consecutive auctions from October to November 2019 for the assignment of 380 MHz of spectrum in the 3.3 GHz, 3.5 GHz and 4.9 GHz bands. With the timely supply of the spectrum to the market, commercial launch of

5G services in Hong Kong is expected in 2020, largely in synchronisation with other advanced economies in the world.

The work that lies ahead will be as diverse and challenging as that in 2018/19, especially in the facilitation of 5G development in Hong Kong. I would like to take this opportunity to express my gratitude to members of the Authority for their continued hard work and commitment throughout the year. I am also thankful to colleagues of the Office of the Communications Authority (OFCA) for their stellar efforts in supporting the work of the Authority. With their dedication and professionalism, the Authority is set to drive Hong Kong's position from strength to strength as Asia's most attractive and competitive communications hub.



Members of the Communications Authority

(April 2018 – March 2019)



CHAIRMAN

Ms Winnie TAM Wan-chi, SC, JP
Communications Authority

VICE-CHAIRMAN



Miss Eliza LEE Man-ching, JP

Permanent Secretary for
Commerce and Economic
Development
(Communications and Creative
Industries)

(until 11 June 2018)



Mr Clement LEUNG Cheuk-man, JP

Permanent Secretary for
Commerce and Economic
Development
(Communications and Creative
Industries)

(from 12 June 2018 onwards)



MEMBERS



Ms Karen CHAN Ka-yin, JP



Mr Stephen HUNG Wan-shun



Mrs Yvonne LAW SHING Mo-han, BBS, JP



Mr Thomas LO Sui-sing, JP



Mr Hubert NG Ching-wah



Dr Anthony William SEETO Yiu-wai



Mr Benjamin TANG Kwok-bun, GBS



Prof XU Yan



Prof Ray YEP Kin-man



Miss Agnes WONG Tin-yu, JP

Director-General of Communications



Role and Functions of the Communications Authority



The Communications Authority

To meet the regulatory challenges brought about by rapid technological advancements and media convergence, the Authority was established on 1 April 2012 under the Communications Authority Ordinance (Cap. 616) (CAO) as an independent statutory body and took over fully the functions and powers of the former Telecommunications Authority and Broadcasting Authority. Its role is to regulate the broadcasting and telecommunications industries in Hong Kong in accordance with the CAO, the Broadcasting Ordinance (Cap. 562) (BO), the Telecommunications Ordinance (Cap. 106) (TO), and the Broadcasting (Miscellaneous Provisions) Ordinance (Cap. 391) (B(MP)O). It shares concurrent jurisdiction respectively with the Customs and Excise Department (C&ED) in enforcing the fair trading sections of the Trade Descriptions Ordinance (Cap. 362) (TDO), and with the Competition Commission (Commission) in enforcing the Competition Ordinance (Cap. 619) (CO) in the telecommunications and broadcasting sectors. It also has a role to regulate the sending of commercial electronic messages (CEMs) in accordance with the Unsolicited Electronic Messages Ordinance (Cap. 593) (UEMO).

The Authority performs the following functions:

- (a) Advisory function to SCED and the Chief Executive in Council (CE in C)
 - tendering advice to SCED on any legislation, legislative proposals and regulatory policies relating to telecommunications, broadcasting, anti-spamming or activities connected with the telecommunications or broadcasting sectors;
 - making recommendations to the CE in C on applications for and renewal of domestic free television programme (free TV) service licences, domestic pay television programme (pay TV) service licences and sound broadcasting licences;
- (b) Unified Regulator of the Communications Sector
 - granting and renewing non-domestic television programme (non-domestic TV) service licences and other licensable television programme (other licensable TV) service licences;
 - preparing and revising codes of practice setting programme, advertising and technical standards for television and radio;
 - dealing with complaints about broadcasting issues and imposing sanctions on the broadcasting operators for contravening the various provisions and requirements;
 - handling the licensing, financial monitoring and regulation of broadcasting licensees in Hong Kong;
 - granting and renewing telecommunications licences;
 - managing and administering the radio frequency spectrum and the telecommunications numbers;



- developing technical standards and conducting equipment testing in line with international best practices, and ensuring satisfactory performance of the certification bodies in carrying out certification and testing against the prescribed technical standards;
 - facilitating fixed network operators to access buildings to install in-building telecommunications facilities for the conveyance of telecommunications and broadcasting services;
 - dealing with complaints about telecommunications services and imposing sanctions on telecommunications operators for contravening the various provisions and requirements;
 - handling the licensing, financial monitoring and regulation of telecommunications licensees in Hong Kong;
- (c) Competition Authority of the Communications Sector
- enforcing the CO in respect of the conduct of undertakings operating in the telecommunications and broadcasting sectors;
- (d) Unfair Trade Practices in the Communications Sector
- enforcing the fair trading sections of the TDO in relation to the commercial practices of licensees for the provision of telecommunications or broadcasting services under the TO or BO; and

- (e) UEMO
- enforcing the UEMO on the sending of CEMs.

Organisation

Members of the Authority (except the Director-General of Communications (DG Com) who is an ex-officio member) are appointed by the Chief Executive of the Hong Kong Special Administrative Region. During the period from April 2018 to March 2019, there were a total of 12 members (comprising 10 non-official members, including the Chairman, and two public officers, viz. the Permanent Secretary for Commerce and Economic Development (Communications and Creative Industries) and DG Com).

The Authority has appointed three committees to assist it in discharging part of its major duties:

- the *Broadcast Complaints Committee*;
- the *Broadcast Codes of Practice Committee*; and
- the *Telecommunications Affairs Committee*.

The ***Broadcast Complaints Committee*** is responsible for considering complaints about broadcasting issues and making recommendations to the Authority regarding such complaints. During the period from April 2018 to March 2019, it comprised four Authority members and four co-opted non-official members.

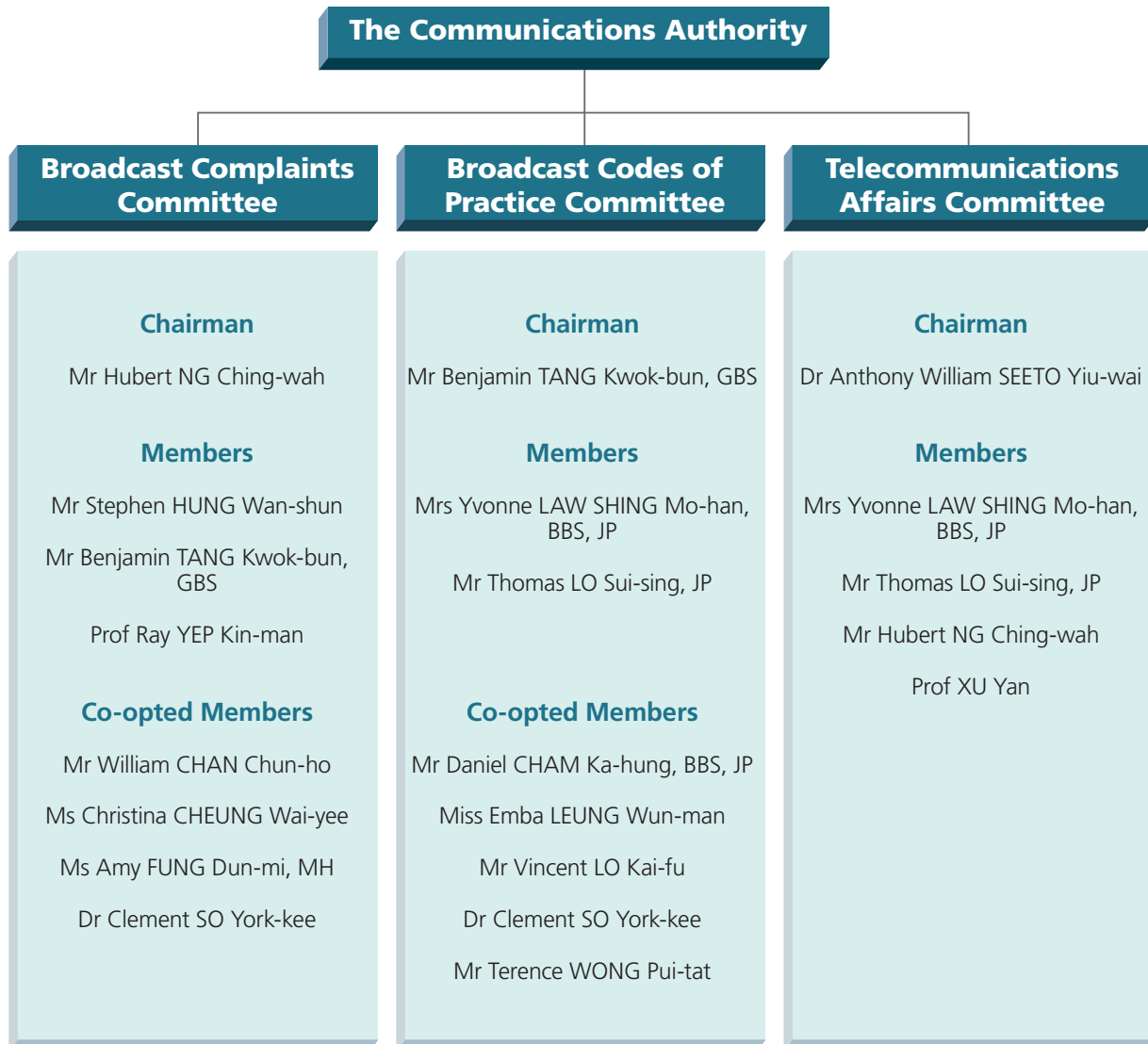


The **Broadcast Codes of Practice Committee** is responsible for keeping the television and radio broadcasting standards under regular review and amending the codes of practice when necessary. During the period from April 2018 to March 2019, it comprised three Authority members and five co-opted members.

The **Telecommunications Affairs Committee** is responsible for offering advice and reporting to the Authority on telecommunications matters. It comprises five Authority members.

The **Office of the Communications Authority** serves as the executive arm and secretariat of the Authority.

Organisation Chart



Overview of Major Developments in the Communications Market

Broadcasting

5.1 An Overview of the Developments in the Broadcasting Market

5.1.1 Number of Licensees and Channels

Television Programme Services

As at March 2019, the total number of free TV, pay TV and non-domestic TV licensees was 19. They provided 622 television channels¹, of which 448 were receivable in Hong Kong, representing a slight decrease of 3% since March 2018. An overview of the channels provided by the television programme service licensees is shown in **Figure 1**.

As at March 2019, there were three **free TV licensees**, viz. Fantastic Television Limited (Fantastic TV), HK Television Entertainment Company Limited (HKTVE) and Television Broadcasts Limited (TVB). They provided a total of 12 channels, comprising nine digital channels all broadcast in high definition television (HDTV) format and three analogue channels. The above channels include three channels which were broadcast in both digital and analogue formats, viz. “Jade” and “Pearl” (by TVB) as well as “Hong Kong Open TV” (by Fantastic TV). The remaining six digital channels were “ViuTV” and “ViuTVsix” (by HKTVE); “J2”, “TVB News Channel” and “TVB Finance & Information Channel” (by TVB) and “Hong Kong International Business Channel” (by Fantastic TV). Radio Television Hong Kong

(RTHK), as the public service broadcaster in Hong Kong, provided three channels and two of them were simulcast in both analogue and digital formats.

As at March 2019, there were two **pay TV licensees**, viz. Hong Kong Cable Television Limited (HKCTV) and PCCW Media Limited (PCCW Media), providing a total of 389 pay television channels and offering a diverse range of local and overseas productions. Among those channels, over 130 were HDTV channels.

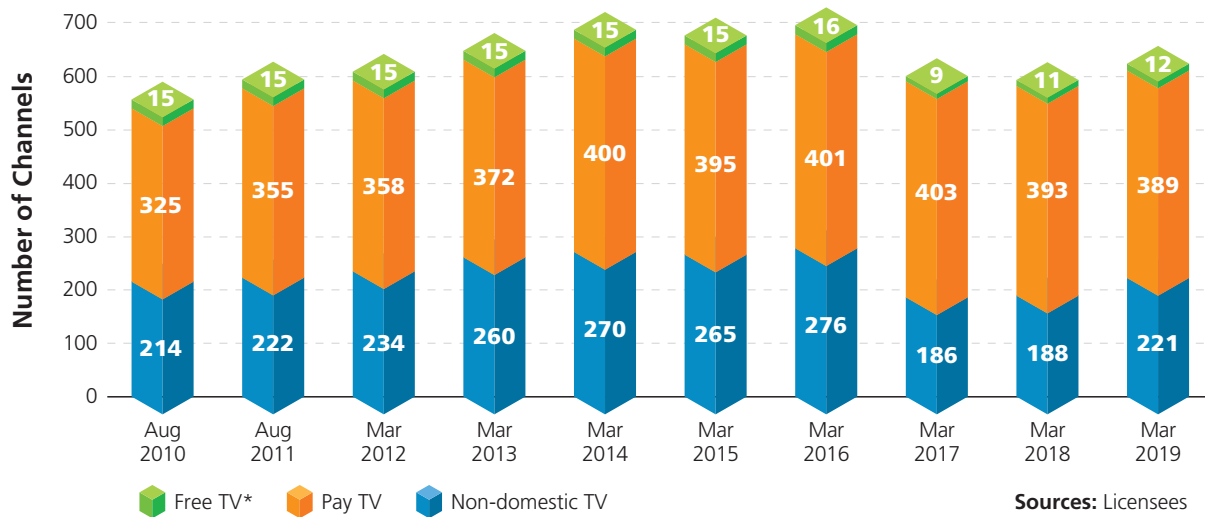
As at March 2019, there were 14 **non-domestic TV licensees** providing a total of 221 television channels, representing an increase of 18% since March 2018. Hong Kong viewers could receive 47 of those television channels.

During the period under review, there were 22 **other licensable TV licensees** providing television programme services in hotels in Hong Kong. Together they provided services to more than 70 hotels in Hong Kong.



¹ Some channels were provided by more than one licensee at the same time.

Figure 1: Television Channels Provided by Television Programme Service Licensees in Hong Kong (as at 31 March 2019)



*The simulcast channels of Asia Television Limited (2010-2016), TVB (2010-2019) and Fantastic TV (2018-2019) are counted for both the analogue and digital platforms.

In addition to satellite television channels provided by non-domestic TV licensees, Hong Kong viewers can receive free unencrypted satellite television programme channels uplinked from outside Hong Kong. As at March 2019, there were more than 400 free-to-air satellite television channels available for reception via the Satellite Master Antenna Television systems in Hong Kong. The list of channels currently available can be downloaded at http://www.ofca.gov.hk/filemanager/ofca/en/content_295/st_smatv.pdf.





Sound Broadcasting Services

During the period under review, there were two **sound broadcasting licensees**, namely, Hong Kong Commercial Broadcasting Company Limited (CRHK) and Metro Broadcast Corporation Limited (Metro). RTHK as the public service broadcaster also provided sound broadcasting service.

As at March 2019, there were 13 radio channels (three by CRHK, three by Metro and seven by RTHK). All channels provided by the commercial licensees and RTHK were broadcast round-the-clock.

5.1.2 Transmission Modes

Television

The regulatory framework for television programme services in Hong Kong as enshrined in the BO is technology-neutral². Licensees are free to choose their transmission arrangements for delivery of television services. Broadcasters may build their own transmission networks to deliver their services and, in such cases, they need to apply for a carrier licence from the Authority to cover the transmission network. Alternatively, they may engage any of the existing carrier licensees to provide the transmission service. Licensees may also provide their television programme services via multiple transmission platforms so as to maximise the coverage.

The transmission modes employed by television programme service licensees are set out in **Figure 2**.

² An exception is that a service provided on the Internet is exempted from the regulatory framework under the BO.

Figure 2: Transmission Modes Employed by Television Programme Service Licensees

Licensee	Transmission Mode	Network Coverage (as at March 2019)
Free TV		
TVB	Terrestrial UHF ³ , including (a) Analogue PAL-I format; and (b) Digital National Standard format	99% of population
HKTV	Terrestrial UHF and Fixed broadband network	99% of population
Fantastic TV	HFC ⁴ and MMDS ⁵	Around 95% of total households
Pay TV		
HKCTV	HFC, MMDS and satellite (Digital)	Around 96% of total households
PCCW Media	PON and DSL ⁶ Broadband network (Digital)	Around 97% of total households
Non-domestic TV		
All the 14 licensees	Satellite (Digital)	33% of total households (865 425 households) ⁷

Penetration of Different Broadcasting Services

The penetration rate of free TV services stood at about 97% of the total households as at end of March 2019⁸. As regards digital terrestrial television (DTT) services, the take-up rate was about 88% of all the households in October 2017⁹.

The penetration of licensed pay TV services was about 83%¹⁰ of the total households as at end of March 2019. The total number of subscribers to licensed pay TV services stood at about 2.1 million in March 2019¹¹. The changes in total number of subscribers from 2010 to 2019 are shown in **Figure 3**.

³ Terrestrial Ultra High Frequency

⁴ Hybrid Fibre Coaxial Cable

⁵ Microwave Multipoint Distribution System

⁶ Passive Optical Network and Digital Subscriber Line

⁷ The non-domestic TV services mainly serve viewers in the Asia-Pacific region, Europe and Africa and do not target Hong Kong, but some Hong Kong households can receive the unencrypted channels.

⁸ Source: HKTAM Establishment Survey, CSM Media Research

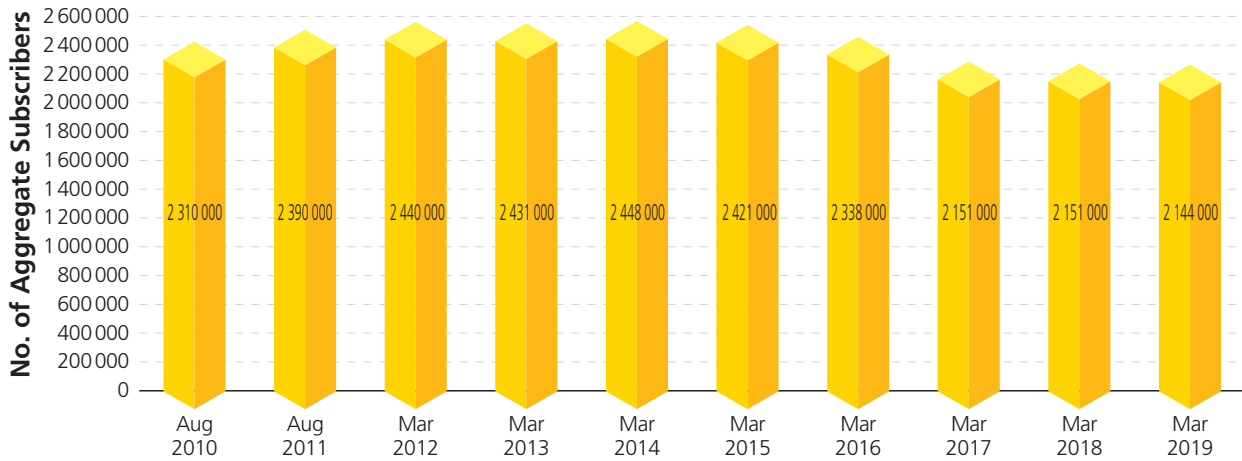
⁹ According to a public survey conducted from August to October 2017, about 88% of the households in Hong Kong were receiving DTT services.

¹⁰ Penetration of licensed pay TV services is calculated by dividing the total number of subscribers to licensed pay TV services by the total number of households. Some subscribers were counted more than once if they subscribed to more than one pay TV service.

¹¹ Some subscribers were counted more than once if they subscribed to more than one service.



Figure 3: Subscribers to Licensed Pay TV Services in Hong Kong



Sources: Licensees

Sound Broadcasting

During the period under review, the radio broadcasters provided their services in FM and AM modes. Seven FM programme channels were provided through seven hilltop sites, supplemented by two low-power FM gap-fillers. In addition, six AM programme channels were broadcast from two island and hilltop sites, supplemented by six low-power AM/FM gap-fillers. The services practically covered the whole area of Hong Kong.

5.1.3 Broadcasting Revenues and Investment

Licensed broadcasting services contributed an estimated \$8.35 billion¹² to the Hong Kong economy, which represented about 0.3% of the gross domestic product in 2018. There are two main sources of revenues for the provision of broadcasting services, viz. advertising and subscription. The incomes of free TV licensees and sound broadcasting licensees mainly come from advertising sales¹³. Pay TV licensees, on the other hand, derive their incomes mainly from subscription fees with advertising sales being a secondary income source.



¹² Source: Company reports of major broadcasting licensees providing television programme services in Hong Kong

¹³ These include sales of advertising spots within programme breaks, programme sponsorship and product placement.



Advertising Revenue

According to the report of admanGo, the advertising expenditures on television and radio accounted for 30% (about \$7.86 billion) and 4% (about \$1.05 billion) respectively of the accumulated \$26.2 billion advertising expenditures in the media in 2018¹⁴.

In 2018, the actual advertising revenues of HKTVE and TVB were around \$204 million and \$2.44 billion respectively. The actual advertising revenues of other licensees were not publicly available.



Subscription Revenue

According to the annual report of PCCW Limited (PCCW), the holding company of PCCW Media, the turnover of its pay TV service and related services provided in Hong Kong

under the “nowTV” brand was \$2.86 billion in 2018, representing an increase of 5% over the figure in 2017.

The subscription revenue of HKCTV is not publicly available.

Investment in Broadcasting Industry

Key investment projects in the television industry in recent years include digitisation of the terrestrial broadcasting network, HDTV content and production technology, interactive television services, and regular network maintenance and upgrades that are required to maintain or expand the ever-advancing scope of services. In addition, with the increasingly competitive television industry, the exclusive rights to broadcast premium contents such as sports events have been a major attraction to viewers.



¹⁴ Source: Adspend Report for 2018 of admanGo. All the advertising expenditures presented in the report have taken into consideration the discount factor based on an assumption of an off rate card rate. It is stated in the Adspend Report for 2018 that to accommodate the rate card for digital media, the off rate card rate has been revised from the previous 60% to the current 75%.



Fantastic TV, HKTVE and TVB have respectively committed to investing a total of \$1.2 billion for the six-year period from 2016 to 2022, \$1.5 billion for the six-year period from 2015 to 2021 and \$6.3 billion for the six-year period from 2016 to 2021 for the provision of free TV services. Investment commitments of Fantastic TV, HKTVE and TVB comprise capital expenditures and programming expenditures. As at March 2019, Fantastic TV, HKTVE and TVB provided 336, 289 and 815 hours of HDTV programmes per week respectively. Fantastic TV and TVB have also committed to increasing the amount of independent local productions in their programming progressively¹⁵.

As regards the pay TV market, i-CABLE Communications Limited, the parent company of HKCTV, reported in its 2018 Annual Report that the capital expenditure of the group for the year decreased from \$208 million in 2017 to \$179 million in 2018. Its major items of investment included property, plant and equipment. According to the 2018 Annual Report of PCCW, the parent company of PCCW Media, the capital expenditure for the year on its media business was \$360 million, representing an increase of 53% over the figure in the previous year. Its major items of investment included the relocation and upgrading of production studio facilities.

CRHK and Metro have committed to investing a total of \$909 million and \$685 million respectively for the six-year period from 2016 to 2022 for the provision of sound

broadcasting services. The investment commitments of CRHK and Metro cover programming improvement and upgrading of infrastructure and facilities and other developments brought by technological advancement to further enhance their service quality.



5.1.4 Programme Variety and Positive Programme Requirements

(a) *Programme Variety and Diversity*

Number of Broadcast Hours and Hours of Station Productions

As at March 2019, the licensees broadcast about 65 727 hours of television programmes a week. Among them, the three analogue channels of Fantastic TV and TVB provided a total of 503 broadcast hours per week. The nine digital channels of Fantastic TV, HKTVE

¹⁵ TVB has agreed to increase its independent local productions incrementally from 20 hours per year in 2016 to 60 hours per year by 2020. Fantastic TV has also agreed to increase such productions incrementally from 20 hours per year in 2018 to 60 hours per year by 2022.



and TVB provided a total of 1 463 broadcast hours per week, while the 389 channels of the two pay TV licensees provided a total of 55 865 broadcast hours per week. As a public service broadcaster, RTHK provided 302 hours on its two analogue channels and 379 hours on its three digital channels per week. As at March 2019, the 47 channels of non-domestic TV licensees receivable in Hong Kong provided a total of 7 896 broadcast hours per week.

The weekly number of broadcast hours for CRHK, Metro and RTHK as at March 2019 was 2 184.

For the period under review, there were a total of 40 805 hours of station productions broadcast on Fantastic TV, HKTVE and TVB, of which 9 960 hours were on three analogue channels and 30 845 hours on nine digital channels. Of the 389 channels provided by pay TV licensees, 86 channels (22.1%) were produced by the licensees themselves.

Free TV Services

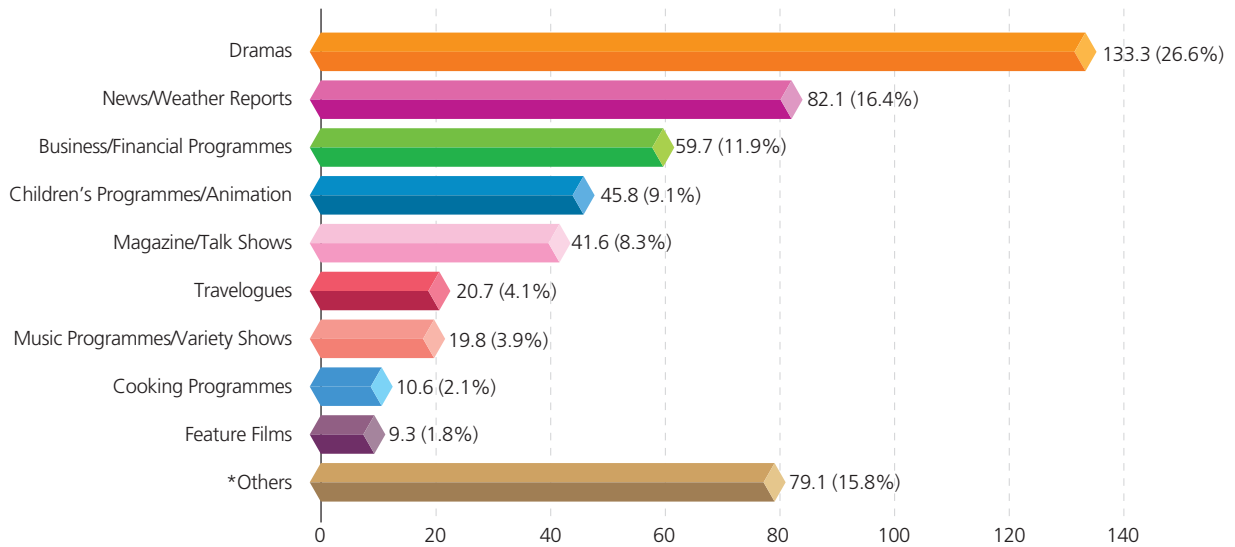
Chinese and English Channels

During the period under review, drama series and news/weather reports were the dominating programme genres during prime time on the Chinese channels (viz. “Hong Kong Open TV”, “Jade” and “ViuTV”). Drama series on “Jade” were mostly in-house productions; while “Hong Kong Open TV”, “Jade” and “ViuTV” broadcast Mainland, Korean and Japanese drama series. In addition, magazine/talk shows, travelogues, music programmes/variety shows and feature films, etc. were also broadcast during prime time on the Chinese channels. The three channels provided by RTHK presented a variety of programmes to serve a broad spectrum of audiences and cater to the needs of minority interest groups.





Figure 4: Weekly Hours of Different Types of Programmes Broadcast on Hong Kong Open TV, Jade and ViuTV (as at March 2019)



* Other programmes include hobbies/leisure programmes, health/medical programmes and documentaries etc.

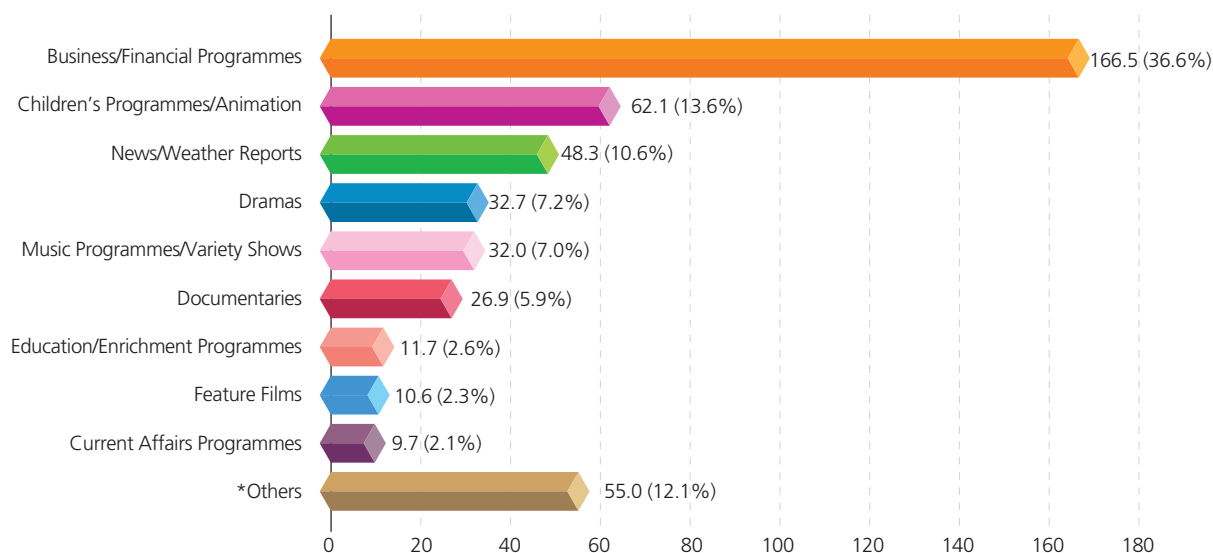
Weekly Total: 502 Hours
Sources: Licensees



The English channels (viz. “Hong Kong International Business Channel”, “Pearl” and “ViuTVsix”) broadcast a wide range of programmes, including business/financial programmes, news/weather reports, children’s programmes/animation, imported popular drama series, sports programmes, music programmes/variety shows, documentaries, feature films, education/enrichment programmes and current affairs programmes.



Figure 5: Weekly Hours of Different Types of Programmes Broadcast on Hong Kong International Business Channel, Pearl and ViuTVsix (as at March 2019)



* Other programmes include sports programmes, travelogues and health/medical programmes etc.

Weekly Total: 455.5 Hours

Sources: Licensees

Thematic Channels

During the period under review, TVB provided acquired dramas, documentaries, variety shows, news, finance information programmes, etc. via "J2", "TVB News Channel" and "TVB Finance & Information Channel".

Pay TV Services

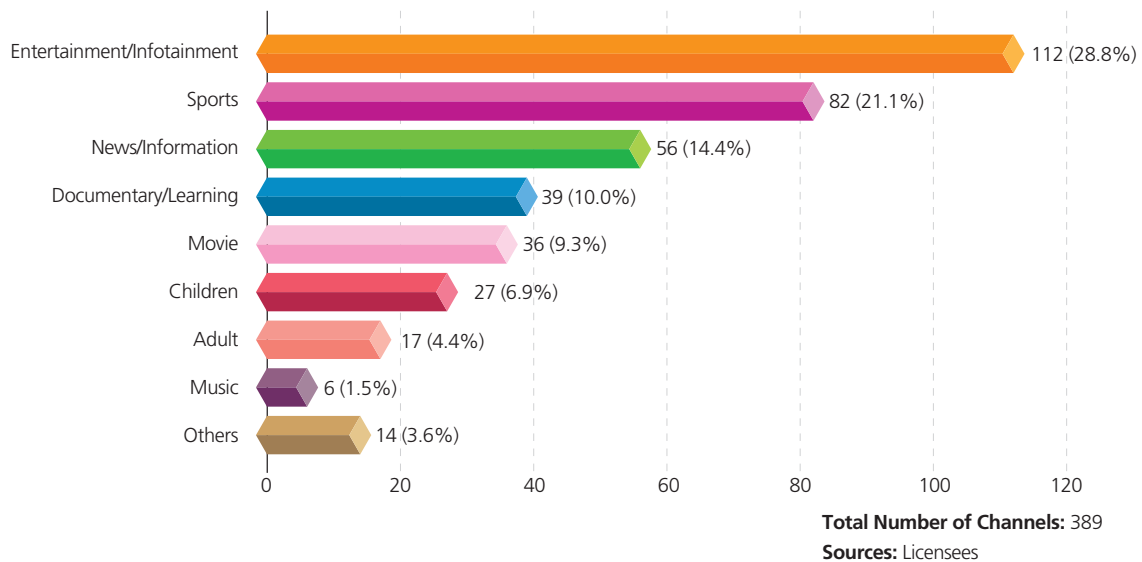
During the period under review, a wide variety of channels were offered on pay TV services, including entertainment/infotainment channels (28.8%), sports channels (21.1%), news/

information channels (14.4%), documentary/learning channels (10%), and movie channels (9.3%).





Figure 6: Nature of Pay TV Channels (as at March 2019)



As at March 2019, HKCTV offered 145 channels (including 45 HDTV channels). PCCW Media's "nowTV" service offered 178 channels (including 89 HDTV channels) and 66 video-on-demand services.

Sound Broadcasting

As at March 2019, CRHK operated two FM Cantonese language services, viz. "CR1" and "CR2", and one AM English language service, "AM 864". "CR1" mainly provided news, current affairs, financial and personal view programmes. "CR2" was mainly an entertainment channel featuring pop culture and music targeting young listeners. "AM864" was primarily a music channel.

Metro operated two FM Cantonese language services, viz. "Metro Finance" and "Metro Info", and one AM English language service, viz. "Metro Plus". "Metro Finance" provided real-time, market-moving news and information about financial markets around the world. "Metro Info" provided music and entertainment programmes as well as programmes on lifestyle, health, market news and other information of interest to the public. "Metro Plus" was a music channel which also provided programmes for ethnic groups including the Filipino, Indian and Thai communities in Hong Kong.

RTHK operated seven radio channels, providing Cantonese, English and Putonghua services. It offered a variety of thematic channels ranging from information to general entertainment and culture.



(b) Positive Programme Requirements

Free TV Services

During the period under review, free TV licensees (viz. Fantastic TV, HKTVE and TVB) were required to broadcast at least 27.5 hours of positive programmes¹⁶ per week. They all met the requirements¹⁷.

The reports submitted by the licensees to the Authority on six types of positive programmes, viz. current affairs programmes, documentaries, children’s programmes, programmes for young persons, programmes for senior citizens and arts and culture programmes, are available at http://www.ofca.gov.hk/en/pub_report/compliance_reports/index.html.



¹⁶ The positive programmes that Fantastic TV, HKTVE and TVB were required to broadcast comprised news, current affairs programmes, documentaries, arts and culture programmes, children’s programmes and programmes for senior citizens and young persons.

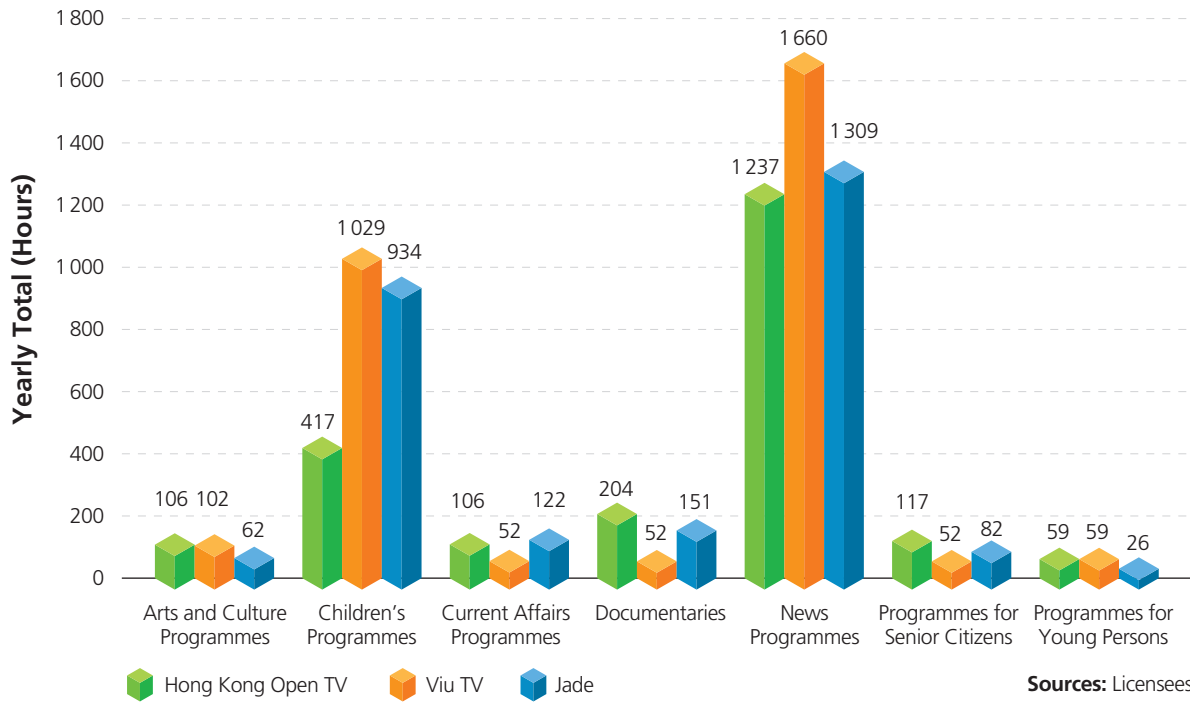
¹⁷ TVB was required to broadcast at least 45.5 hours of positive programmes per week, including four hours of positive programmes per week on its thematic digital channels (viz. “J2”, “TVB Finance & Information Channel” and “TVB News Channel”).

To provide more flexibility for new free TV licensees, HKTVE was allowed to gradually increase the broadcast of positive programmes from 34.5 hours per week in 2016 to 41.5 hours per week by 2019.

As Fantastic TV uses a fixed network as its transmission means to deliver free TV service, the programme requirements of Fantastic TV are less stringent than those applicable to other spectrum-based free TV licensees (viz. HKTVE and TVB). It was required to broadcast at least 27.5 hours of positive programmes per week.



Figure 7: Broadcast of Positive Programmes on the Chinese Channels of Fantastic TV, HKTVE and TVB (as at March 2019)



Free TV licensees were required to provide Chinese subtitles for all news, current affairs programmes, weather reports and emergency announcements, as well as programmes broadcast during prime time (7:00 p.m. to 11:00 p.m.) on the Chinese channels. They were also required to provide English subtitles for all news, current affairs programmes, weather programmes, emergency announcements and educational programmes for teenagers (two hours per week) on the English channels¹⁸.

HKTVE and TVB were required to provide Chinese subtitling for all drama programmes on the Chinese channels and English subtitling for all programmes broadcast on the English channels between 8:00 p.m. and 11:30 p.m. As a whole, Fantastic TV¹⁹, HKTVE²⁰ and TVB complied with the requirements on provision of subtitles.

To meet public demand for easier access to information by persons with hearing impairment, the Authority issued a direction

¹⁸ TVB was also required to provide, on its thematic digital channels, Chinese subtitles for all news, current affairs programmes, weather reports and emergency announcements as well as programmes broadcast during prime time.

¹⁹ To provide more flexibility for new free TV licensees, Fantastic TV was allowed to step up the subtitling service incrementally from 2018 to 2020.

²⁰ To provide more flexibility for new free TV licensees, HKTVE was allowed to step up the subtitling service incrementally from 2016 to 2019.



requiring TVB²¹ to provide sign language interpretation, in addition to subtitles, for a Cantonese news programme broadcast on its “Pearl” channel each day with effect from July 2018. TVB met the new requirement.

Pursuant to licence requirements, Fantastic TV, HKTVE and TVB were required to broadcast one minute of Announcements in the Public Interest (APIs) in each hour on each channel. Also, they were required to broadcast, on a weekly basis, not more than five minutes in aggregate of publicity material for the Authority on each of the Chinese and English channels²². During the period under review, Fantastic TV, HKTVE and TVB broadcast a total of 1 259 hours of the two types of materials²³.



Sound Broadcasting

As regards sound broadcasting services, sound broadcasting licensees were required to broadcast at least 28.5 hours of positive programmes²⁴ per week. CRHK and Metro reported that they had complied with the licence conditions on broadcast of positive programmes.

All sound broadcasting licensees were required to broadcast one minute of APIs in each hour and not more than five minutes of publicity material for the Authority each week on each service channel. All licensees complied with the requirements.



²¹ In the context of the licence renewal exercise of TVB in 2015, the Authority took note of the increasing demand from persons with hearing impairment for sign language interpretation for news programmes and agreed to facilitate the provision of sign language interpretation for news programmes as a new initiative. The CE in C accepted the Authority’s recommendation and included an enabling provision in TVB’s renewed licence to require it to provide sign language for its free TV service as directed by the Authority.

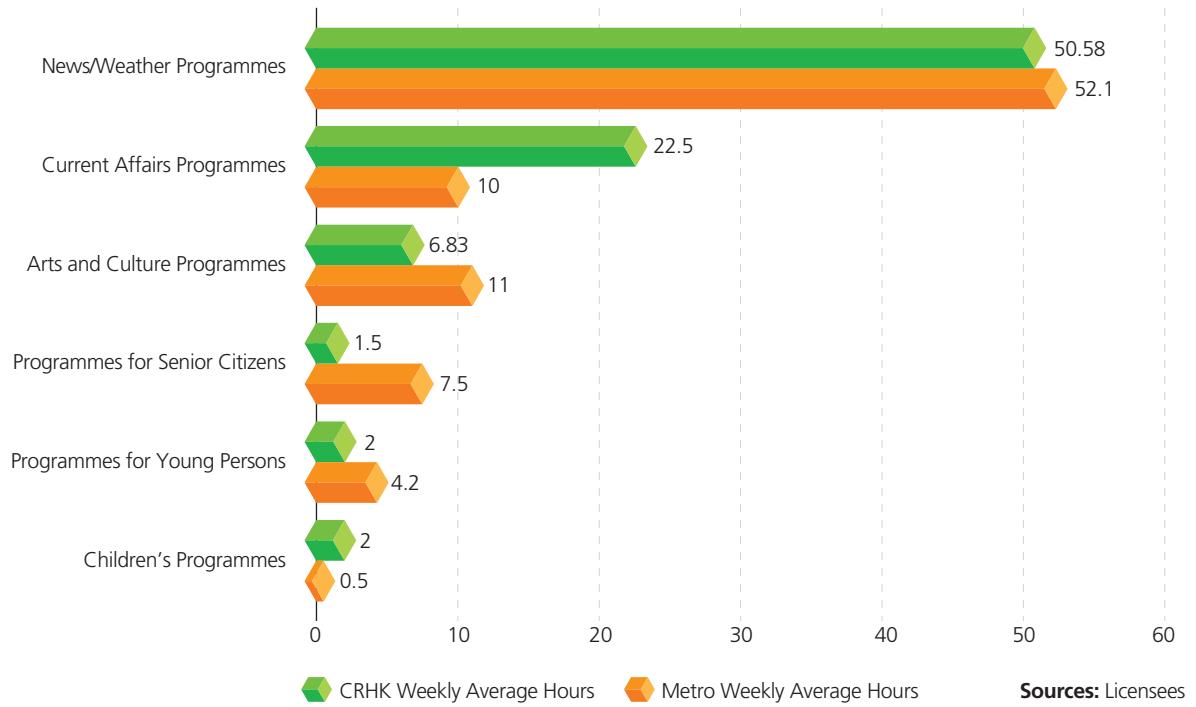
²² TVB was required to broadcast two minutes of publicity material for the Authority per week on its thematic digital channels.

²³ If a free TV channel was simulcast in both analogue and digital formats, the total number of hours of APIs and publicity material for the Authority were calculated only by reference to the materials broadcast in digital format.

²⁴ The positive programmes that CRHK and Metro were required to broadcast comprised news and weather programmes, current affairs programmes, arts and culture programmes and advisory programmes, viz. programmes for young persons, senior citizens and children.



Figure 8: Broadcast of Positive Programmes on Sound Broadcasting Services (as at March 2019)



5.1.5 Hong Kong as a Regional Broadcasting Hub

Hong Kong is a broadcasting hub in the Asia-Pacific region, with 14 non-domestic TV licensees operating in and broadcasting from Hong Kong. Altogether they offered a total of 221 satellite television channels with 47 channels receivable in Hong Kong, serving viewers in the Asia-Pacific region, Europe and Africa. A summary of non-domestic TV services as at March 2019 is at **Annex 1**.



Telecommunications

5.2 An Overview of the Telecommunications Market

Hong Kong has one of the most sophisticated and successful telecommunications market in the world. This has been an important factor in Hong Kong's development as a leading business and financial centre. In 2018, the telecommunications sector employed around 19 900 persons whilst its gross output amounted to \$91 billion in 2017.

All sectors of Hong Kong's telecommunications market have been liberalised with no foreign ownership restrictions. The Authority's objectives are to maintain a level playing field in the open and competitive telecommunications market and to ensure that consumers get the best services available in terms of efficiency, quality and price.

5.2.1 The Telecommunications Regulatory Framework

Carrier Licences

The Authority issues carrier licences to facility-based operators, authorising them to establish and maintain telecommunications networks and facilities which may cross unleased Government land and public streets, for the provision of public telecommunications services.

The unified carrier licensing framework has been implemented since 1 August 2008 as the single licensing vehicle for the provision of facility-based fixed, mobile and/or converged telecommunications services in Hong Kong.





A Unified Carrier Licence (UCL) for the provision of local fixed service authorises the licensee to establish and maintain fixed network, wireline-based or wireless-based, or a combination of both where applicable, to provide local telecommunications services between fixed points within Hong Kong. A UCL for the provision of external fixed service authorises the licensee to provide external facilities as well as external services operated over external facilities. A UCL for the provision of mobile service enables the licensee to provide two-way communications between moving locations or between a moving location and a fixed location in Hong Kong. The issue of new UCL for the provision of mobile service is subject to the availability of radio spectrum for assignment. An operator may apply for a single UCL to provide all the above services.

Fixed Carrier Licences (FCLs) and Mobile Carrier Licences (MCLs) which were issued before the introduction of the UCL remain valid until their expiry. Holders of FCL and MCL may apply to the Authority for a UCL to replace their licences before or upon expiry.

As at March 2019, there were a total of 58 carrier licensees, providing local fixed services, cable-based external fixed services, non cable-based external fixed services and/or mobile services. Among them, there were one holder of each of FCL²⁵ and MCL, while the remaining were UCL holders.

Public Radiocommunications Service Licences

Services which may be authorised under the Public Radiocommunications Service (PRS) Licence include radio paging, community repeater (trunked radio) services, vehicle location information services, one-way data message services, public mobile radio data services and railway signaling services.

As the provision of radiocommunications services requires the assignment of suitable operating frequencies, PRS Licences are granted only when the required radio spectrum is available.

As at March 2019, there were a total of eight PRS licensees.

Services-based Operator Licences

Services-based Operators (SBO) make use of the networks and facilities of other licensed facility-based operators for the provision of public telecommunications services, but they are not authorised to establish or maintain any telecommunications means which cross public streets or unleased Government lands.

SBO licence covers three types of services, namely, Class 1 and Class 2 local voice telephony services, and Class 3 services which may include external telecommunications service, Internet access service, international value-added network service, MVNO service, private payphone service, public radio communications relay service, security and fire alarm signals transmission service,

²⁵ The last FCL expired on 3 May 2019.



teleconferencing service and mobile communications service on board an aircraft.

As at March 2019, there were a total of 517 SBO licensees.

Class Licences

The class licensing framework does not require any licence applications. Parties meeting the specified eligibility criteria and conditions automatically become the class licensees, and are required to comply with the conditions set out in the relevant Class Licence as well as the TO. Currently, there are nine types of Class Licences:

- Class Licence for 79 GHz Automotive Radar
- Class Licence for 60 GHz Device
- Class Licence for Citizens Band Radio Station

- Class Licence for In-building Telecommunications Systems
- Class Licence for Medical Implant Communication System Device
- Class Licence for Short Range Device
- Class Licence for Taxi Mobile Station
- Class Licence for Offer of Telecommunications Services
- Class Licence for Provision of Public Wireless Local Area Network Services

Other Licences

Apart from the licences mentioned above, there are a number of miscellaneous licences under the purview of the Authority.

A breakdown of the types and numbers of all telecommunications licences is at **Annex 2**.





5.2.2 Developments in the Telecommunications Market and Technology Trends

Mobile Communications Services

Competition in public mobile services has been keen. As at March 2019, four MNOs, namely, China Mobile Hong Kong Company Limited, Hong Kong Telecommunications (HKT) Limited, Hutchison Telephone Company Limited and SmarTone Mobile Communications Limited (SmarTone), were providing a wide range of public mobile services. The availability of mobile number portability since March 1999 has contributed to promoting effective competition among the MNOs as it enables customers to retain their telephone numbers in switching mobile service subscriptions between MNOs.

The four MNOs provide 2G, 3G and 4G services in Hong Kong at very affordable prices. As at March 2019, there were about 22.6 million subscriptions to mobile communications services. The mobile subscriber penetration rate²⁶ reached 276.1%, one of the highest in the world. The number of 3G/4G subscriptions totalled 22 million in March 2019 and the subscriber penetration rate was 266.8%. In

line with the increase in service demand, more spectrum was refarmed for the provision of 4G services with a downlink speed up to 1.1 gigabit per second (Gbps).

With the increasing popularity of smart phones, particularly 4G mobile handsets which were readily available in the market, the monthly mobile data usage surged to 54 860 Terabytes in March 2019, representing 1.4 times and 2.2 times of the monthly usage over the same period in 2018 and 2017 respectively. The mobile data usage per capita reached 7 328 Megabytes in March 2019, compared with 5 444 Megabytes in March 2018 and 3 436 Megabytes in March 2017. The continuous development of 4G services is expected to further boost mobile data usage in the future.



²⁶ Calculation of the overall mobile subscriber penetration rate and that for subscribers of 3G/4G services does not include machine type connections.



Figure 9: Number of Mobile Subscriptions (2009 to 2018)

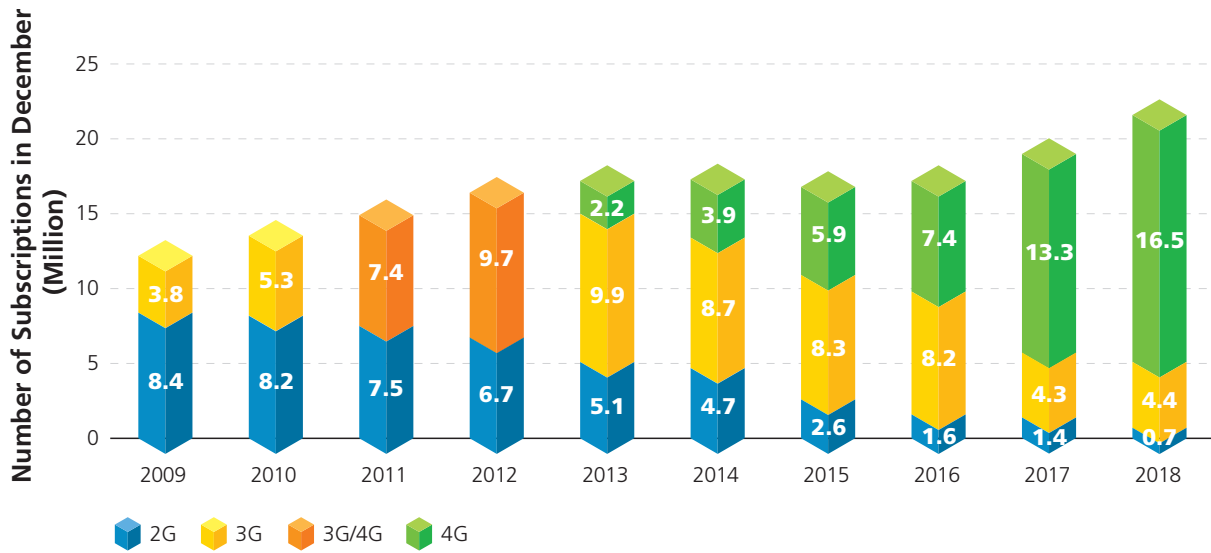


Figure 10: Mobile Subscriptions of Postpaid and Prepaid SIM (2009 to 2018)

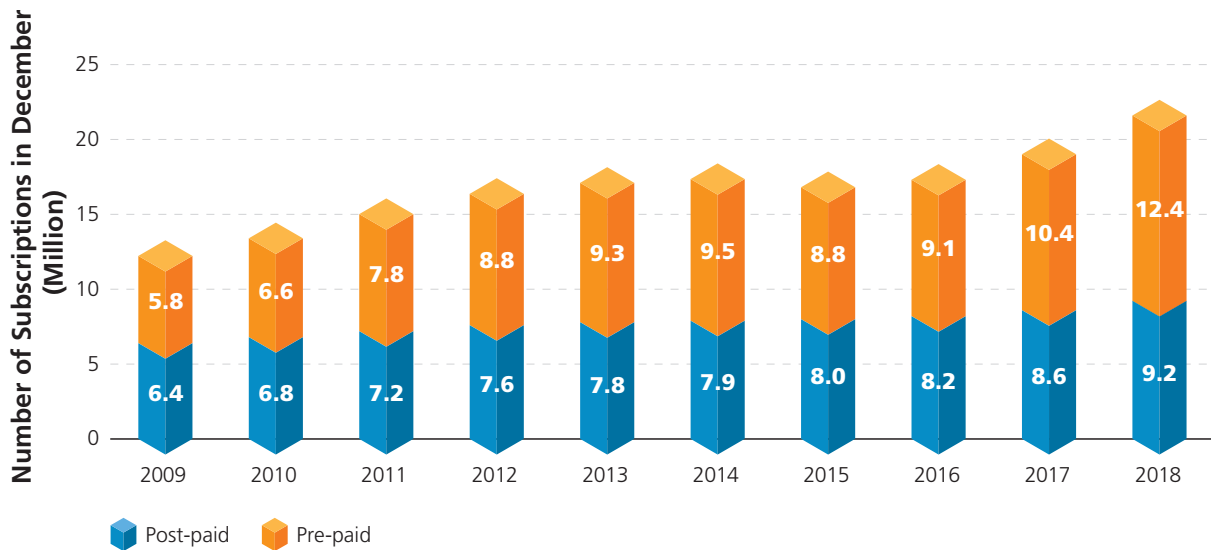
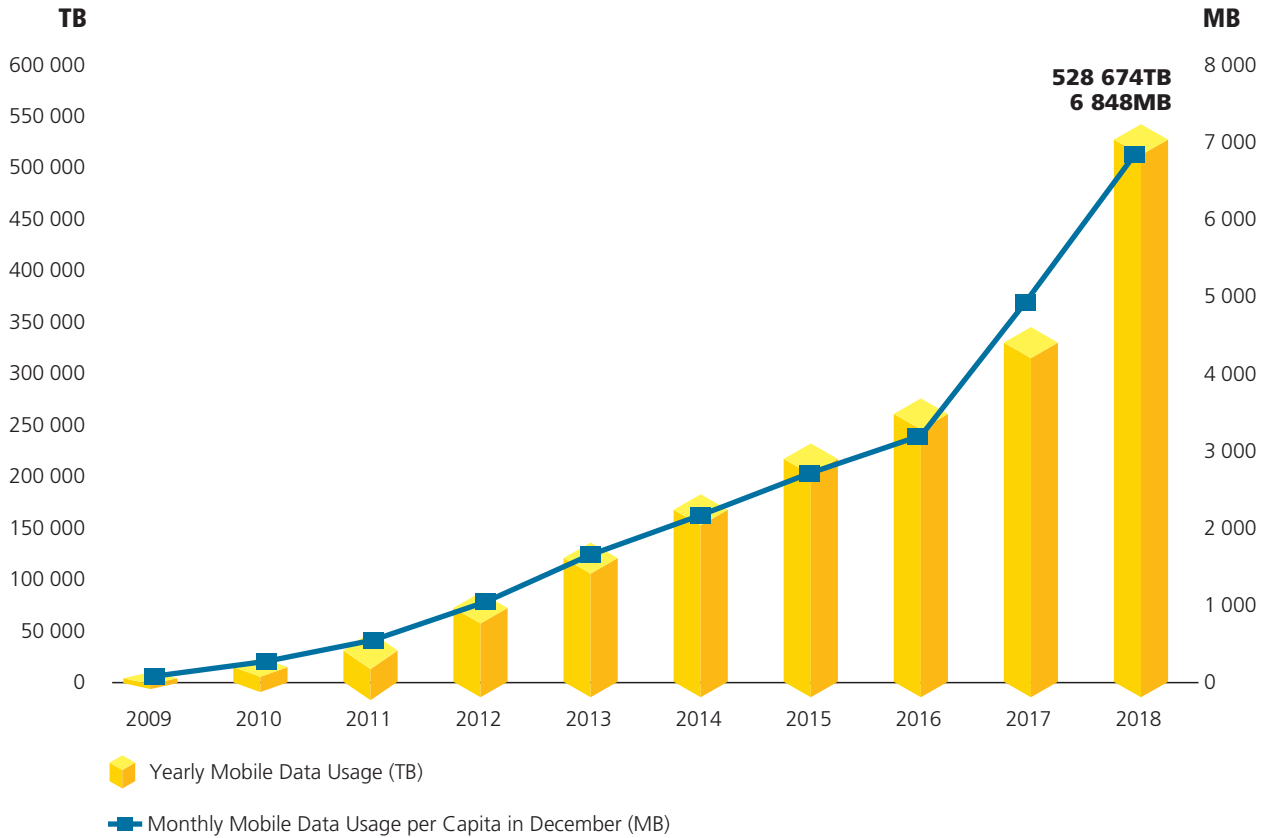




Figure 11: Mobile Data Usage (2009 to 2018)



Fixed Communications Services

The local fixed communications services market has been fully liberalised since 2003. There is no preset limit on the number of licences to be issued for fixed services, or deadline for submission of licence applications. Furthermore, there is no specific requirement on network roll-out and investment and licensees may provide their services according to their proposals.

As at March 2019, there were 27 local fixed carriers, providing around 93 fixed lines per 100 households, one of the highest in the world. They were, in alphabetical order:

- 21 ViaNet Group Limited
- China Mobile Hong Kong Company Limited
- China Mobile International Limited
- China Telecom Global Limited
- China Unicom (Hong Kong) Operations Limited
- ComNet Telecom (HK) Limited
- Easy Tone Network Limited



- Equinix Hong Kong Limited
- HGC Global Communications Limited
- HKBN Enterprise Solutions Limited
- HKC Network Limited
- Hong Kong Broadband Network Limited
- Hong Kong Cable Television Limited
- Hong Kong Telecommunications (HKT) Limited
- NTT Com Asia Limited
- PCCW Global (HK) Limited
- PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited
- Reach Networks Hong Kong Limited and Reach Cable Networks Limited
- SmarTone Communications Limited
- Superloop (Hong Kong) Limited
- Telstra International HK Limited and Telstra International Limited
- Towngas Telecommunications Fixed Network Limited
- TraxComm Limited
- Verizon Hong Kong Limited
- Village Telephone Limited
- Vodafone Enterprise Global Network HK Limited (renamed as Vodafone Enterprise Hong Kong Limited on 1 April 2019)
- WTT HK Limited (renamed as HKBN Enterprise Solutions HK Limited on 26 August 2019)

As at March 2019, 90.2% and 79.2% of households were able to enjoy a choice of at least two and three self-built customer access networks respectively. It is expected that the figures will keep growing as the carriers continue to roll out their networks.

Since 1995, local fixed carriers have been required to facilitate fixed number portability, enabling consumers to switch between fixed carriers without having to change their telephone numbers.

Fixed Broadband Services

As at March 2019, 27 facility-based operators and 224 SBOs were authorised to provide broadband Internet access services in Hong Kong. With the continuous network roll-out of facility-based operators, the Hong Kong community is able to enjoy nearly ubiquitous coverage of broadband networks through the deployment of various technologies including asymmetric digital subscriber line, hybrid fibre coaxial cable, fibre-to-the-building, fibre-to-the-home, etc. Broadband access to various applications and content services has become an integral part of the life of people in Hong Kong. As at March 2019, there were around



2.71 million residential and commercial fixed broadband subscriptions, with a household penetration rate of 93%. Broadband services are available at speeds up to 10 Gbps. Around 80% of the fixed broadband subscriptions

used service plans with a speed of 100 Mbps or above. The statistics of fixed broadband subscriptions as at March 2019 and the statistics for the past 10 years are shown in **Figure 12** and **Figure 13** respectively.

Figure 12: Statistics of Fixed Broadband Subscriptions (as at March 2019)

	No. of subscriptions	% share
Total No. of broadband subscriptions	2 714 679	100%
Broadband speed of 100 Mbps or above	2 160 718	79.6%
Broadband speed below 100 Mbps	553 961	20.4%
Residential	2 419 960	89.1%
Commercial	294 719	10.9%

Figure 13: Fixed Broadband Subscriptions (2009 to 2018)



Internet of Things Services

Internet of Things (IoT) is a technology which enables the provision of communications platforms and services for interconnected devices to generate, exchange and consume data with minimal human intervention. Currently, both Wireless Internet of Things (WIoT) licensees and MNOs are authorised to provide WIoT services. Since the creation of the WIoT licence in December 2017, three WIoT licences have been issued. With the development of new wireless technologies such as the 5G mobile technologies and smart city applications, it is expected that there will be an increasing number of WIoT devices connecting to the public telecommunications networks in future.



Public Wi-Fi Services

Operators have been actively rolling out Wi-Fi networks. Eight network operators and 181 class licensees are providing public Wi-Fi services. As at March 2019, there were 56 993 public Wi-Fi hotspots in the city and the number continued to grow. Free Wi-Fi services were available to the public in 626 government premises.

External Telecommunications Services

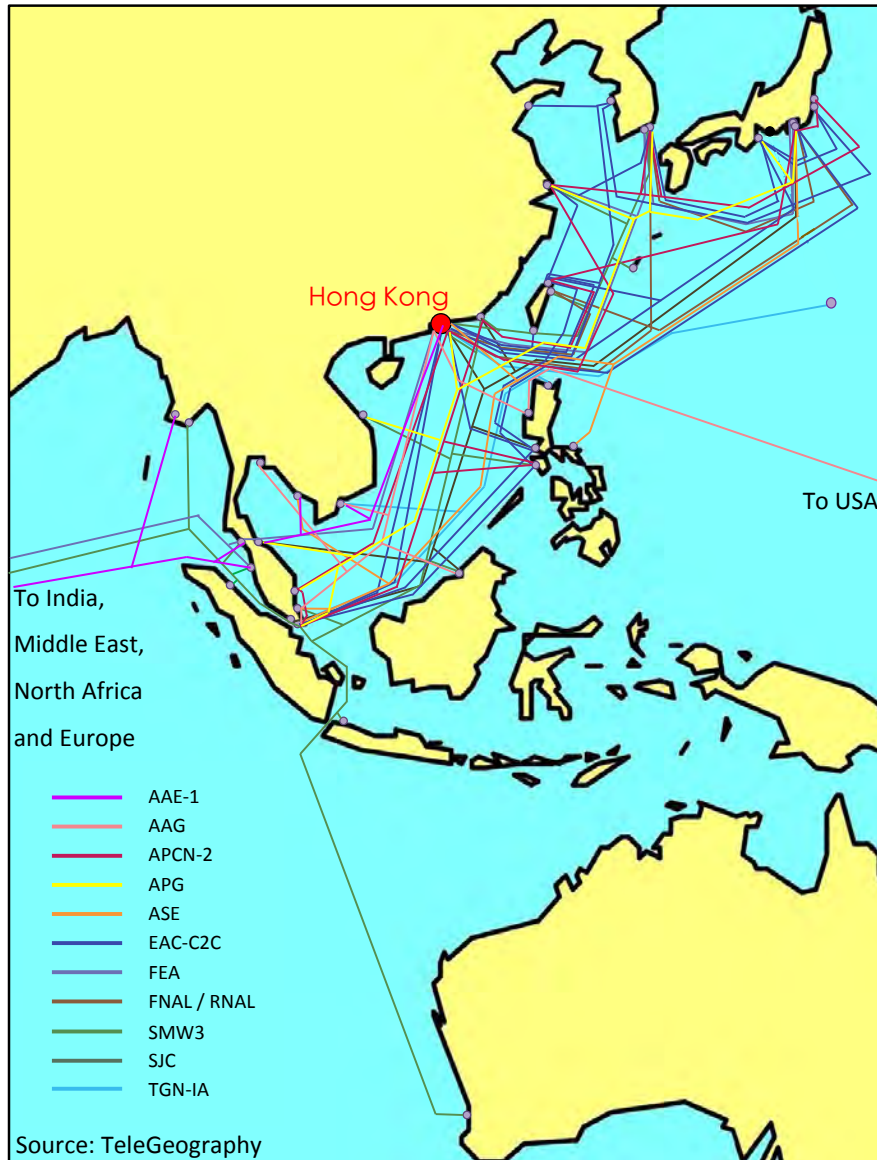
The external telecommunications facilities market has been fully liberalised since 2000. As at March 2019, 40 fixed carriers were authorised to provide cable-based and/or non-cable-based external telecommunications facilities.

As at March 2019, there were eight cable landing stations in Hong Kong: two in Tong Fuk, three in Tseung Kwan O and one each in Deep Water Bay, Chung Hom Kok and Cape D'Aguiar, making it a major telecommunications and Internet hub in the region.

In March 2019, Hong Kong was connected to 11 regional and transcontinental submarine cable systems. They are Asia Africa Europe-1 (AAE-1), Asia-America Gateway Cable System (AAG), Asia Pacific Cable Network 2 (APCN-2), Asia Pacific Gateway (APG), Asia Submarine-Cable Express (ASE), EAC-C2C, FLAG Europe Asia (FEA), FLAG North Asia Loop (FNAL)/REACH North Asia Loop (RNAL), Sea-Me-We 3 (SMW3), South-East Asia Japan Cable System (SJC) and TGN-Intra Asia Cable System (TGN-IA). As at March 2019, the total equipped external capacity exceeded 81 421 Gbps. Total external telephone traffic was 3 billion minutes for the period from 1 April 2018 to 31 March 2019. Landing of five additional submarine cable systems is in the pipeline and they are expected to be ready for service between 2019 and 2021.



Figure 14: Submarine Cables between Hong Kong and Other Economies



Satellite Services

Hong Kong adopts an open sky policy in regulating the provision of satellite services. Satellite-based telecommunications and television broadcasting services are provided via a multitude of satellites in the region with more than 200 transmitting/receiving satellite antennae in earth stations operated by a number of fixed carriers and broadcasters.

Licences are required for the operation of satellites and associated facilities. As at March 2019, two Hong Kong companies were licensed to operate and provide satellite communications services, namely Asia Satellite Telecommunications Company Limited and APT Satellite Company Limited, operating a total of 12 in-orbit satellites.



Review of the Communications Authority's Major Tasks



Broadcasting

6.1 Review of Television and Sound Broadcasting Regulatory Frameworks by the Government and Implementation of Measures by the Authority to Streamline Administrative Requirements

In 2018/19, the Authority provided support to CEDB in the latter's review of the television and sound broadcasting regulatory frameworks with the aim of modernising the regulatory frameworks in response to market needs and technological advancement. Upon completion of the review, CEDB proposed to relax cross-media ownership restrictions in relation to free TV, pay TV and sound broadcasting licences; and foreign control restrictions in relation to free TV licences. CEDB also proposed to remove the requirement that a free TV or sound broadcasting licensee must be a non-subsidiary company. In March 2019, CEDB introduced into the Legislative Council the Broadcasting and Telecommunications Legislation (Amendment) Bill 2019 proposing legislative amendments to give effect to the above relaxation measures. Scrutiny of the Bill by the Bills Committee was completed in May 2019.

Apart from the above legislative amendments pursued by CEDB, the Authority also implemented non-legislative measures as part of the multipronged approach to facilitate the development of the broadcasting industry. In July 2018, the Authority revised codes of practice to relax the regulation of indirect advertising in television programme services and to lift the prohibition on the broadcast of advertisements for undertakers and associated services. Such measures enable the industry to diversify their source of advertising while still safeguarding viewers'

interests. The Authority also streamlined certain administrative requirements, thereby further easing the regulatory burdens on the broadcasting industry. Specifically, the reporting requirements were relaxed in January 2019 by allowing pay TV and sound broadcasting licensees to submit reports on comments/complaints received on a quarterly basis instead of on a monthly basis, and waiving the requirement for free TV licensees to submit the types and schedules of children's programmes. Furthermore, the period for broadcasting licensees to make representations to the Broadcast Complaints Committee under the Authority in response to public complaints has been extended from seven working days to 14 working days with effect from February 2019. The Authority also implemented in March 2019 changes to administrative measures for enforcing foreign control restrictions applicable to free TV licensees by simplifying the prescribed form for a declaration on voting control by shareholders before a general meeting, adjusting the deadlines for submission of a declaration, and disclosing to licensees the approval of applications for acquiring/holding shares by unqualified voting controllers subject to consent of an applicant.

6.2 Non-domestic and Other Licensable TV Licences

During the period under review, the Authority rejected an application for a new non-domestic TV licence, and approved the applications for renewal of the following other licensable TV licences for the provision of television programme services in hotel rooms in Hong Kong.

- Movielink (Hong Kong) Limited
- The Peninsula Hotel Limited
- Ricobem Limited



- Langham Hotels International Limited
- Kowloon Panda Hotel Limited
- Gala Hotels Limited
- Shangri-La Hotel (Kowloon) Limited
- Bauhinia Hotels Limited
- Sheraton International (Hong Kong) Limited

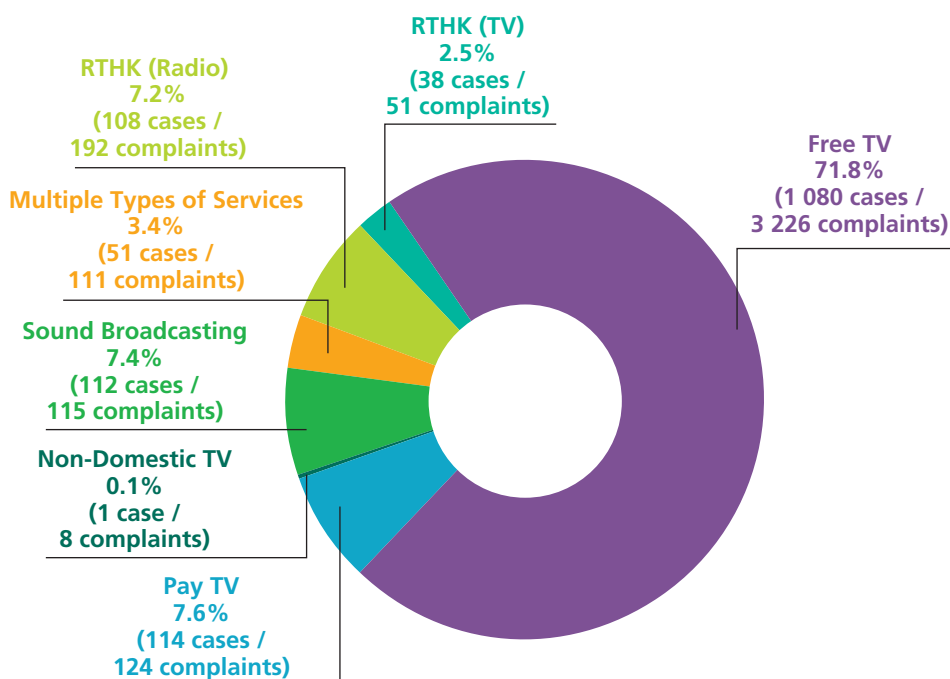
The Authority also accepted the surrender of a non-domestic TV licence by GLOBECAST HONG KONG LIMITED (Globecast) based on its own commercial decision²⁷.

6.3 Processing Complaints Relating to Broadcasting Services

Overview of the Complaints Processed

During the period from April 2018 to March 2019, the Authority processed a total of 1 504 cases (3 827 complaints)²⁸ relating to the materials broadcast by broadcasters, representing a reduction of 19% in the number of cases and a reduction of 12% in the number of complaints processed, as compared with the figures recorded during the same period in the previous year (1 866 cases, 4 342 complaints). Breakdown of all the complaint cases by broadcasting service and broadcaster processed during the period is shown in **Figure 15** and **Figure 16** respectively.

Figure 15: Distribution of All Complaint Cases by Broadcasting Service Processed in 2018/19



²⁷ In March 2019, the Authority approved the application of Globecast to terminate its non-domestic TV licence with effect from 5 May 2019.

²⁸ To ensure operational efficiency, complaints with similar allegations against the same issue or broadcast material are handled together and counted as a single case.



Figure 16: Distribution of All Complaint Cases by Broadcaster Processed in 2018/19

Broadcasters Involved	No. of Complaint Cases	No. of Complaints Involved
TVB	975	3 106
HKTVE	73	83
Fantastic TV	29	29
HKCTV	69	72
PCCW Media	44	50
CRHK	103	106
Metro	9	9
RTHK (TV)	38	51
RTHK (Radio)	108	192
Globecast	1	8
Multiple Broadcasters	55	121
Total	1 504	3 827

Among all the complaint cases processed by the Authority, DG Com handled 1 487 cases (3 404 complaints) under the powers delegated by the Authority. These complaints involved breaches of a minor nature, or contained allegations which did not constitute any breach or were outside the remit of section 11(1) of the

B(MP)O (i.e. the allegations concerned matters not regulated under the relevant legislation, licence conditions or codes of practice). The Authority dealt with 17 cases (423 complaints). Outcomes of all the complaints processed by the Authority during this period are listed in **Figure 17**.

Figure 17: Outcomes of all the Complaints Dealt With by the Authority and DG Com

	Within Section 11(1) of B(MP)O				Outside Section 11(1) of B(MP)O	Total
	Substantiated		Unsubstantiated			
	The Authority	DG Com	The Authority	DG Com	DG Com	
No. of Cases	12	139	5	1 030	318	1 504
No. of Complaints	153	255	270	2 777	372	3 827



Complaints Dealt with by the Authority

Among the 17 complaint cases dealt with by the Authority, 12 concerned free TV services (involving 331 complaints, which accounted

for 78.3% of the total number of complaints dealt with by the Authority). A breakdown of these complaint cases by broadcasting service is shown in **Figure 18**.

Figure 18: Breakdown of Complaint Cases Dealt With by the Authority by Broadcasting Service

Types of Broadcasting Service	No. of Complaint Cases	No. of Complaints Involved
Free TV	12	331
Pay TV	1	2
Non-domestic TV	1	8
RTHK (TV)	1	1
RTHK (Radio)	1	79
Multiple Types of Broadcasting Service	1	2

Regarding the nature of the broadcast materials involved in the 17 complaint cases dealt with by the Authority, 14 of them were related to programmes while three were on advertisements. 12 of them were substantiated. Among these substantiated cases, five cases were related to indirect advertising; three cases concerned sponsorship of, inaccurate factual contents or breach of election-related guidelines in news programmes; one case concerned programme materials sponsored by a liquor product broadcast during the family viewing hours; one case involved use of language in programme; one case concerned the lack of indication of the source and date of the assessment(s)/

test(s) for substantiating the factual claims in advertisement; and one case involved the licensee's non-compliance with certain requirements in its licence in broadcasting the programmes under complaint and in responding to the Authority's request for information in connection with the complaints.

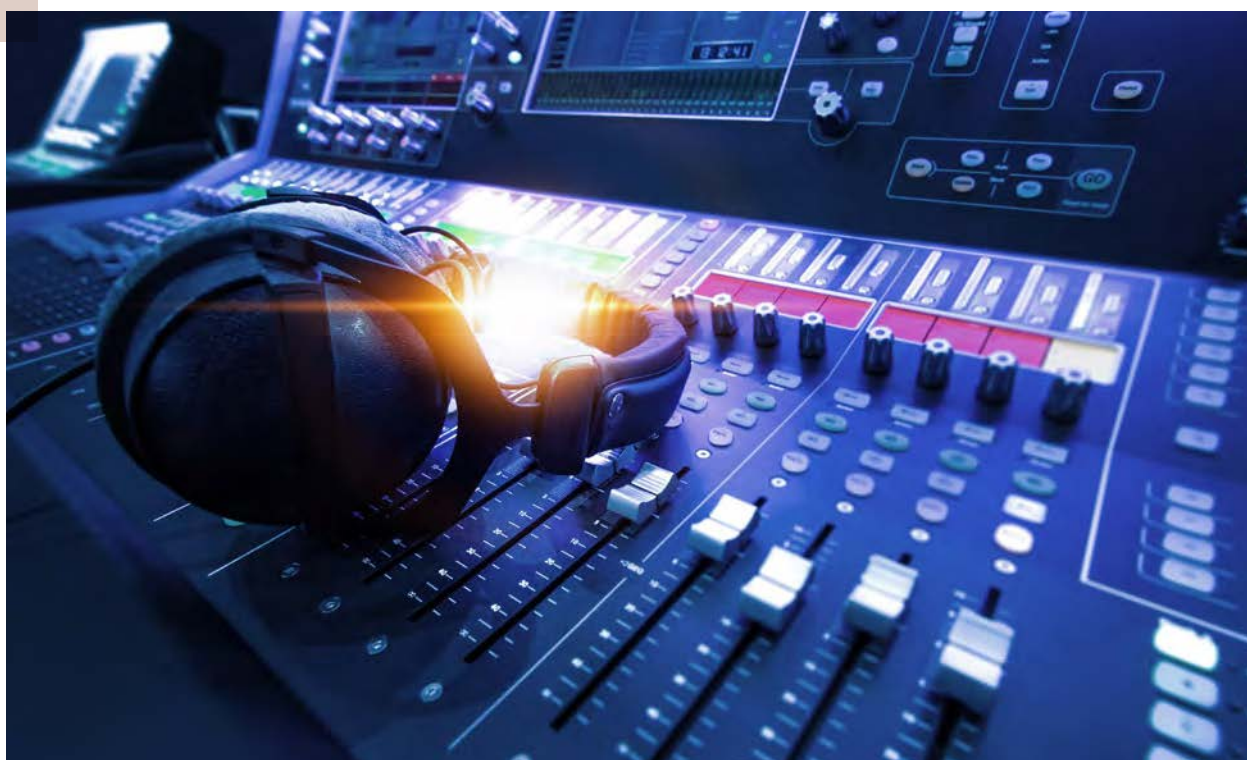
The Authority imposed a financial penalty, and issued one serious warning, three warnings, one piece of strong advice and seven pieces of advice to the broadcasters concerned. A breakdown of the decisions of the Authority on the complaints dealt with in 2018/19 is shown in **Figure 19**.



Figure 19: Decision of the Authority on Complaint Cases in 2018/19

Decision of the Authority	TVB	Fantastic TV	PCCW Media	RTHK	Globecast	Total
No Further Action	4	1	0	0	0	5
Advice	2	1	2	2	0	7 ^{Note}
Strong Advice	1	0	0	0	0	1
Warning	2	0	0	0	1	3
Serious Warning	1	0	0	0	0	1
Financial Penalty	1	0	0	0	0	1
Total	11	2	2	2	1	18 ^{Note}

Note: As one substantiated complaint case involved two licensees (viz. Fantastic TV and PCCW Media), a piece of advice was issued to each of them.



Telecommunications

6.4 Making Additional Spectrum Available for 5G Services

Making 5G Spectrum Available in Multiple Frequency Bands

Following the supply of 5G spectrum as elaborated in the ensuing paragraphs and the gradual availability of commercial 5G equipment and consumer products, commercial 5G services are expected to be launched in Hong Kong in 2020. 5G services will revolutionise mobile user experience as empowered by its excellent technical capabilities for high speed, high capacity, high reliability, massive connectivity, and low latency communications. It is widely expected that 5G will open up vast potential for various commercial and smart city applications.

Between May and September 2018, the Authority conducted three separate joint

public consultations with SCED in relation to frequency allocation, assignment arrangements and the related SUF for the respective spectrum in the 3.5 GHz band, 26 GHz and 28 GHz bands, 3.3 GHz and 4.9 GHz bands. Having thoroughly considered the views and comments received in the public consultations, the Authority and SCED promulgated three joint statements on 13 December 2018 to announce their respective decisions on the frequency allocation and assignment arrangements for the spectrum in these frequency bands, as well as the related SUF.

In gist, an additional total amount of about 4 500 MHz of spectrum in multiple frequency bands has been made available for the provision of 5G services. Regarding the assignment methods, the Authority has decided to release 4 100 MHz of spectrum in the 26 GHz and 28 GHz bands through an administrative means whereas 380 MHz of spectrum in the 3.3 GHz, 3.5 GHz and 4.9 GHz bands by way of auctions.





Re-allocation of the 3.5 GHz Band

At present, the 3.5 GHz band is being used for fixed satellite services. The Authority has decided to re-allocate the band to mobile services from April 2020. As set out in the Authority's statement issued on 28 March 2018, to enable the co-existence of the existing satellite stations and future mobile stations operating in the same and adjacent bands, relevant mitigating measures should be adopted before the re-allocation.

Among others, restriction zones will have to be set up around the existing satellite earth stations for telemetry, tracking and control of the licensed satellites in orbit (TT&C stations). To address the concerns raised by the mobile

industry on the restriction zones, a working group was established in June 2018 to study technical arrangements for the deployment of radio base stations operating in the 3.5 GHz band within the restriction zones. The working group comprised relevant stakeholders including representatives of MNOs, operators of the TT&C stations, Hong Kong Science and Technology Park, and Hong Kong Applied Science and Technology Research Institute. The working group explored different mitigating measures and conducted field trials to verify the feasibility of such measures to allow controlled co-existence of the TT&C stations and radio base stations inside the restriction zones. The Authority endorsed the working group's report with recommended guidelines on the implementation of mitigating measures in June 2019.



Assignment of the Spectrum in 26 GHz and 28 GHz Bands

Among the 4 100 MHz of spectrum in the 26 GHz and 28 GHz bands, 3 700 MHz of spectrum has been set aside as non-shared spectrum for the provision of large scale public mobile services. The Authority invited applications for administrative spectrum assignment in the two bands in December 2018, and a total of three applications from incumbent MNOs were received. In March 2019, the Authority decided to offer the assignment of 400 MHz of spectrum to each of the three applicants as per their applications. A UCL was granted to each of them in April 2019 to effect the assignment of spectrum for the provision of large scale 5G services.

The remaining 400 MHz of spectrum in the 26 GHz and 28 GHz bands is set aside for assignment in the second half of 2019 on a geographically shared basis for providing localised wireless broadband services in specified locations such as the airport, university campuses, industrial estates and technology parks, etc. Such a sharing arrangement will facilitate the development of innovative 5G and smart city applications.

Spectrum in 600 MHz and 700 MHz Bands

The Authority plans to make available a total of 160 MHz of spectrum in the 600 MHz (617 – 698 MHz) and 700 MHz (703 – 803 MHz) bands after the switch-off of analogue television services on 30 November 2020 for the provision of indoor public mobile services, including 20 MHz of spectrum in the 700 MHz band for outdoor use. More spectrum in the 700 MHz band may be allocated for outdoor use by 5G services subject to completion of frequency coordination with the Mainland authorities.

New Frequency Bands for 5G Services

The Authority will continue its efforts in identifying more spectrum to support the development of 5G services in Hong Kong. In particular, the Authority will keep in view the outcome of the World Radiocommunication Conference to be convened in end 2019 on, among others, identification of frequency bands between 24.25 GHz and 86 GHz for 5G services. Subject to market demand, the Authority will consider making available the newly identified spectrum to the industry.



6.5 Facilitating the Rollout of 5G Services

Facilitating the Industry to Conduct Trials for 5G Technologies and Applications

To prepare for the launch of 5G services, as of 31 March 2019, the Authority had issued a total of 25 trial permits to MNOs and equipment vendors with temporary spectrum assignments free-of-charge for test purposes. The Authority welcomes applications from any interested parties for conducting further 5G trials.

Facilitating the Rollout of 5G Networks

For deployment of 5G services in Hong Kong, MNOs will need to establish a larger number of radio base stations as compared with previous generations of mobile services. To facilitate the expedient and effective rollout of 5G networks, the Authority supported the Government for launching a pilot scheme in March 2019 to open up more than 1 000 suitable government premises for MNOs to install radio base stations with a streamlined approval process. OFCA has set up a dedicated team to coordinate with MNOs and relevant government departments on the matters concerned, and issued the "Guidance Notes for Submission of Applications under the Pilot Scheme for Installation of Radio Base Stations at Selected Government Venues" to set out the principles, requirements and streamlined procedures in respect of the applications under the scheme. The scheme has been well received by the industry.



OFCA has also been working closely with the industry to identify suitable street level furniture and facilities for the installation of radio base stations, such as at public payphone kiosks, bus passenger shelters, etc., and is coordinating with relevant government departments to facilitate the conduct of technical trials, formulation of relevant procedures and sorting out of approval requirements for use of these street level furniture and facilities to install radio base stations.

6.6 Re-assignment of Frequency Spectrum in the 900 MHz and 1 800 MHz Bands

In December 2017, the Authority announced its decision to adopt a hybrid administratively-assigned and market-based approach to re-assign 50 MHz of spectrum in the 900 MHz band and 150 MHz of spectrum in the 1 800 MHz band upon expiry of the existing assignments in January and September 2021 respectively. Pursuant to the hybrid approach, 80 MHz of spectrum in the 1 800 MHz band was administratively re-assigned to the four incumbent spectrum assignees through the exercise of their rights of first refusal in September 2018, whilst the remaining 120 MHz of spectrum in the 900 MHz and 1 800 MHz bands were put to auction in December 2018. The SUF of the 80 MHz of administratively re-assigned spectrum and the 120 MHz of auctioned spectrum were \$4.32 billion and \$6 billion respectively. In sum, the spectrum assignees are required to pay a total SUF of \$10.32 billion for the new 15-year term of assignments. OFCA will coordinate with all incumbent and new spectrum assignees to ensure a seamless transition when some of the spectrum is changed hands in 2021.

6.7 Facilitating Development of Wireless Internet of Things Services

Upon creation of a new licensing framework for the provision of WIoT platforms and services using the shared frequency band of 920 – 925 MHz by the Authority in December 2017, three WIoT licences were issued as at March 2019. Meanwhile, the existing MNOs may also provide WIoT services by adopting mobile technology such as Narrowband Internet of Things with the use of their frequency spectrum assigned under the UCL. With the introduction of a new WIoT device fee under UCL from 31 January 2019, any WIoT devices operated under UCL are subject to a fee level of \$2 for each WIoT device, which is set at the same level

as the fee under WIoT licence. The Authority will continue to facilitate the development and competitive supply of WIoT services in Hong Kong.

6.8 Review of the Telecommunications Regulatory Framework by the Government

In 2018/19, CEDB commenced a review of the telecommunications regulatory framework under the TO with a view to embracing the arrival of 5G and IoT technologies and facilitating the trade. The Authority will continue to provide necessary support to CEDB in its review on and any future legislative amendments to the TO having regard to





stakeholders' views received in the exercise. In parallel, the Authority will introduce some streamlined administrative measures with the aim of further facilitating the operation of the industry.

6.9 Review of the Class Licence Framework for Offer of Telecommunications Services

The Class Licence for Offer of Telecommunications Services (CLOTS) created by the Authority pursuant to section 8(1)(aa) of the TO authorises persons meeting the criteria or conditions set out therein to offer any telecommunications services to the general public without establishment, operation or maintenance of any means of telecommunications. In view of the emergence of new technologies and the adoption of new business models and commercial practices by market players, the Authority conducted a public consultation in January 2019 to solicit views and comments from the public on its proposals to update the relevant conditions of CLOTS, including the introduction of a registration requirement for CLOTS licensees serving a large customer base. Taking into account the views and comments received therein, the Authority issued a statement on 26 April 2019 to promulgate its decision to vary the conditions in CLOTS with a view to enhancing regulatory oversight and consumer protection.

The revised CLOTS has taken effect from 26 October 2019. To allow existing CLOTS licensees sufficient time to make necessary adjustments to their business systems and procedures for compliance with the new registration requirement, a further three-month grace period is allowed.

6.10 Implementation of Measures to More Efficiently Utilise the 8-digit Numbering Plan

To ensure that adequate number resources would be made available to cope with the development of 5G mobile technologies in the coming years, the Authority, after public consultation, announced on 24 June 2016 its decision to adopt measures for implementation in three phases. Phases 1 and 2 were successfully implemented on 1 January and 1 July 2017 respectively. The Authority commenced allocating mobile numbers with new prefixes '4', '7' and '8' to mobile service providers from July 2017. As of 31 March 2019, a total of 270 000 mobile numbers with the abovementioned new prefixes have been allocated to operators for their assignment to the end customers. With the implementation of the measures in three phases, a total of additional 15.72 million numbers will become available for allocation to mobile services. It is expected that the additional numbers will be able to cope with the demand from mobile services in the foreseeable future.

6.11 Reduction of Telecommunications Licence Fees

On 8 June 2018, the Authority and SCED conducted a joint public consultation on proposals to reduce the licence fees payable by holders of five types of licences issued under the TO and to introduce a new fee component for WIoT under UCLs to facilitate the development of WIoT services. Having carefully considered the views and comments received during the consultation exercise, the Authority and SCED jointly promulgated their decisions in October 2018 to proceed with the fees reduction proposals and introduction of the WIoT fee component under UCLs. Upon the commencement of the Telecommunications



(Carrier Licences) (Amendment) Regulation 2018 on 31 January 2019, the customer connection fee under UCLs has been reduced from \$700 to \$500 for each 100 customer connections; and the new fee component under UCLs at \$200 for each 100 WIoT devices has been introduced. In line with the reduction of the customer connection fee under UCLs, mobile station fee of PRS licences for public radio paging services and SBO licences (Class 3) (MVNOs) has been reduced from \$700 to \$500 for each set of 100 mobile stations. For mobile radio system mobile station licences and private mobile radio system licences, the licence fee for each mobile station is reduced from \$270 to \$220.

6.12 Review of the Number of Public Payphones under the Universal Service Obligation (USO)

Public payphone is a basic telephone service which the universal service provider (USP) is required under its USO to provide. The cost of providing a public payphone service subject to the USO is shared by the fixed and mobile services operators. In view of the diminishing demand for public payphone service in recent years, the Authority announced on 29 June 2017 to embark on a review to determine the reasonable number of public payphones that should be subject to the USO.

Regarding in-building type public payphones, consultations with owners/managers of the sites were completed in February 2018. Based on the feedback received, the Authority decided to exclude about 35% (515) of the in-building type public payphones from the USO. As for kiosk type public payphones, consultations with all 18 District Councils were completed in March 2019. Based on the feedback received, the Authority decided to exclude about 50% (765) of the kiosk type public payphones from the USO.



The USP of the public payphones may continue to operate the public payphones that are excluded from the USO at its own cost. For in-building type public payphones, the USP has decided to remove all the excluded payphones from the sites concerned. For kiosk type public payphones, the USP plans to retain a number of excluded payphones at its own cost and remove the rest of the excluded payphones from the districts concerned.

6.13 Processing Complaints Relating to Telecommunications Services

As the telecommunications market is fully liberalised and highly competitive, the Authority has adopted a light-handed regulatory approach. The Authority investigates consumer complaints against telecommunications operators if there is sufficient evidence to establish a prima facie case on possible breaches of any provisions under the TO, licence conditions or other relevant legislation which the Authority has jurisdiction to enforce, namely, TDO and CO. For other consumer complaints not involving any breach of the TO, licence conditions or other relevant legislation, it is the responsibility of the telecommunications operators to resolve the matters under complaint with their customers. The Authority would take note of their handling of the consumer complaints received and take necessary actions if any systemic issue is identified.



During the year under review, the Authority received a total of 1 546 consumer complaints relating to telecommunications services, representing a reduction of 21.9% compared to 1 980 complaints in the previous year. Among them, 876 cases (56.7%) were related to mobile services, 388 cases (25.1%) were related to Internet services, 259 cases (16.8%) were related to fixed-line services, 15 cases (1%) were related to external telecommunications and three cases (0.2%) were related to other services. On the nature of

complaints, the Authority received the largest number of complaints relating to customer service quality (444 cases or 28.7%), while complaints about billing disputes (251 cases or 16.2%) and service quality (244 cases or 15.8%) ranked second and third respectively.

Breakdown of complaint cases by types of telecommunications services and nature of complaints received by the Authority during the period are shown in **Figure 20** and **Figure 21** respectively.

Figure 20: Distribution of Complaint Cases by Types of Telecommunications Services Received by the Authority in 2018/19

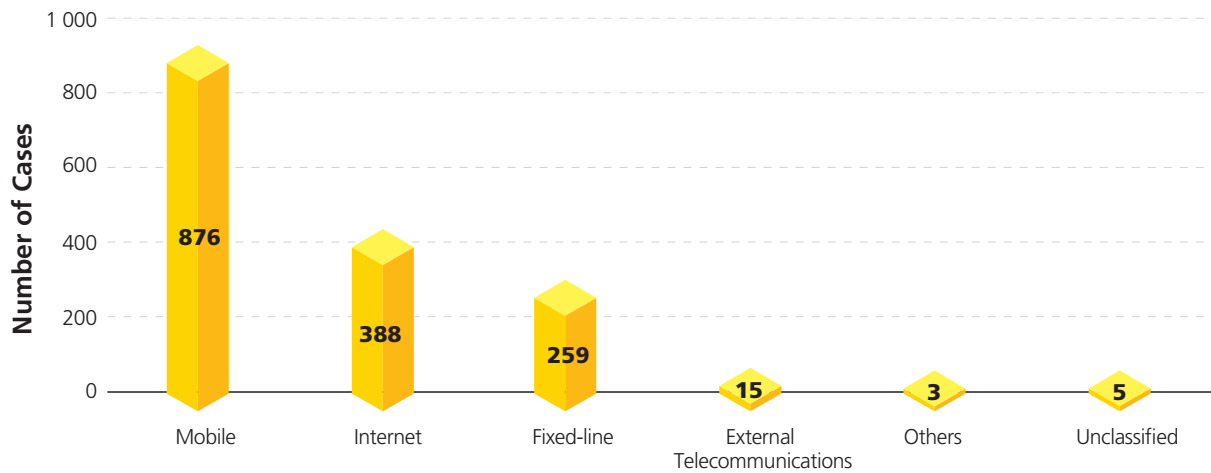
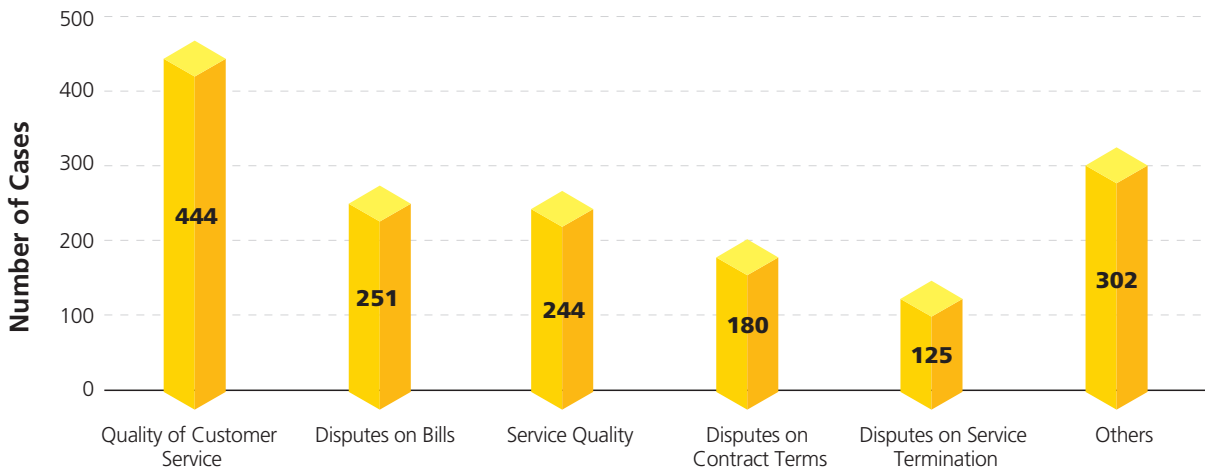


Figure 21: Distribution of Complaint Cases by Nature of Complaints Received by the Authority in 2018/19



Among the 1 546 complaint cases received, 1 542 (99.7%) were outside the Authority’s jurisdiction. For the remaining four cases (0.3%), they involved allegations regarding failure to send international SMS through prepaid mobile SIM, disclosure of personal data to a third party, failure to provide a good and continuous service and exploitative conduct in relation to service bundling. No case was found

to be in breach of TO or licence conditions after investigation.

Breakdown of complaint cases that involved alleged breach of the TO or licence conditions by types of telecommunications services and nature of complaints received by the Authority during the year under review are shown in **Figure 22** and **Figure 23** respectively.

Figure 22: Distribution of Complaint Cases by Types of Telecommunications Services Received by the Authority in 2018/19

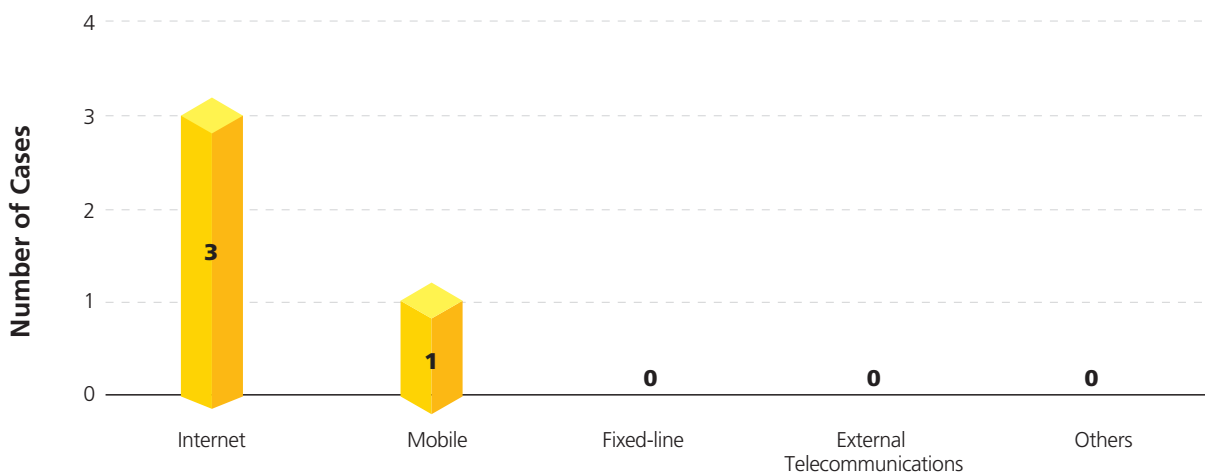
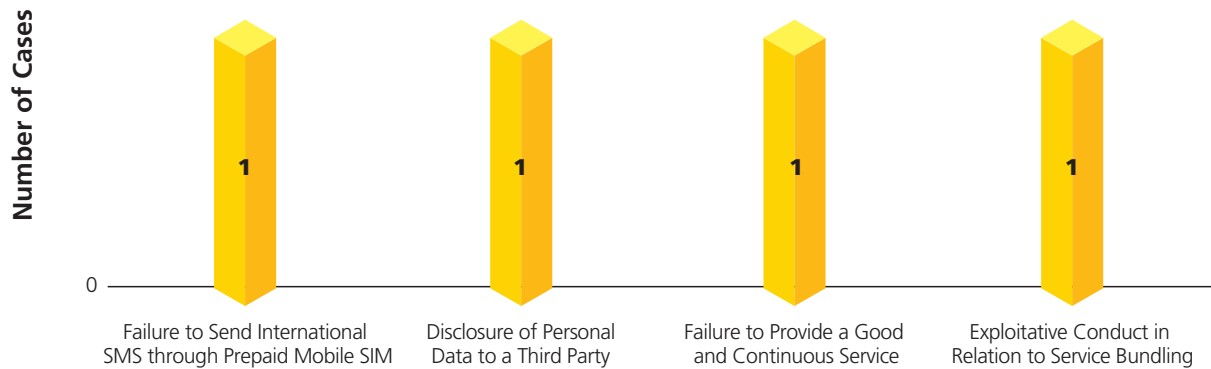




Figure 23: Distribution of Complaint Cases by Nature of Complaints Received by the Authority in 2018/19



In the past few years, the Authority noted that consumer complaints were mainly on telecommunications service contractual disputes, mobile bill shock, chargeable mobile content services and Fair Usage Policy. In collaboration with the telecommunications industry and the Communications Association of Hong Kong (CAHK), various measures have already been implemented to address these complaints. These include issue of an industry code of practice for voluntary compliance by telecommunications licensees on service contracts, implementation of mobile bill

shock preventive measures, promulgation of a set of mandatory guidelines governing the implementation of Fair Usage Policy by telecommunications service providers, issue of a voluntary industry code of practice to govern the service delivery by mobile content services providers, and publication on OFCA's website details of the arrangements adopted by major residential broadband service providers to handle service termination requests from consumers. The number of complaint cases of the types mentioned above received during the year under review is shown in **Figure 24**.



Figure 24: Number of Consumer Complaint Cases Received by the Authority in 2018/19

Types of Consumer Complaint	No. of Complaint Cases
Contractual Disputes	305
Mobile Bill Shock	91
Fair Usage Policy	6
Chargeable Mobile Content Services	4

6.14 Long Term Implementation of Customer Complaint Settlement Scheme (CCSS)

The CCSS is an alternative dispute resolution scheme which aims at resolving billing disputes in deadlock between telecommunications service providers and their residential/personal customers by means of mediation. The mediation service is provided by an independent mediation service centre (CCSS Centre) set up under the CAHK, with voluntary participation of all major telecommunications service providers in Hong Kong. OFCA supports the CCSS by contributing the necessary funding, vetting the CCSS applications against the acceptance criteria, and monitoring the performance and the governance of the scheme.

Between 1 April 2018 and 31 March 2019, there were 54 eligible applications, 33 of which were resolved before referral to the CCSS Centre, 20 were satisfactorily settled upon referral to the CCSS Centre and only one case was not settled after mediation.

6.15 Enforcement of the Fair Trading Sections of the Trade Descriptions Ordinance

The fair trading sections of the TDO prohibit certain specified unfair trade practices by traders in the provision of goods and services to consumers. The Authority is conferred concurrent jurisdiction with the C&ED to enforce the fair trading sections of the TDO in relation to the commercial practices of licensees under the TO and the BO directly connected with the provision of telecommunications and broadcasting services. The two enforcement agencies have entered into a memorandum of understanding (MoU) to co-ordinate the performance of their functions under the fair trading sections of the TDO and have issued a set of enforcement guidelines to provide guidance for traders and consumers as to the operation of the fair trading sections.

From 1 April 2018 to 31 March 2019, the Authority handled a total of 356 complaint cases under the TDO. Of these cases, 303 were closed for there being insufficient evidence to suspect/establish a contravention



or falling outside the scope of the TDO, 13 cases were closed after the issue of advisory letters to the licensees concerned to draw their attention to the need to improve the relevant commercial practices in relation to the sale, supply or promotion of telecommunications or broadcasting services to consumers, and the remaining 40 cases were under processing at various stages.

6.16 Enforcement of the Competition Ordinance

The CO provides for a cross-sectoral competition law prohibiting anti-competitive conduct in all sectors. Under the CO, the Authority is conferred concurrent jurisdiction with the Commission to enforce the CO in respect of the conduct of undertakings operating in the telecommunications and broadcasting sectors, including merger and acquisition activities involving carrier licensees in the telecommunications sector.

Pursuant to the MoU signed by the Authority and the Commission, the Authority will ordinarily assume the role of the lead authority for matters falling within the concurrent jurisdiction. For matters involving issues that are partly within and partly outside the concurrent jurisdiction, the Authority and the Commission will discuss and agree on how best to process the matter on a case-by-case basis.

From 1 April 2018 to 31 March 2019, a total of 42 complaints and/or enquiries were received under the CO, with 39 cases closed without the need for further actions and three cases under processing. During the year, the Authority also reviewed two transactions under the merger rule of the CO. While no further action was considered necessary in respect of one transaction, the Authority identified competition issues in the other transaction concerning the proposed acquisition of WTT Holding Corp. announced by HKBN Ltd. in August 2018. In this case, the merging parties offered commitments to the Authority in January 2019 under section 60 of the CO to address the Authority's competition concerns, in return for the Authority not commencing an investigation or bringing proceedings in the Competition Tribunal in relation to the transaction. Pursuant to the requirements under the CO, the Authority sought representations from the industry and interested parties regarding its proposed acceptance of the merging parties' proposed commitments. Having considered the representations received, the Authority took the view that the proposed commitments would need to be revised to address certain matters raised in the representations. The merging parties then offered a set of revised commitments in March 2019. The Authority announced its decision in April 2019 to accept the revised commitments under section 60 of the CO and not to commence an investigation into the transaction under section 39 of the CO as the revised commitments were considered sufficient to effectively address its competition concerns.



6.17 Enforcement of the Unsolicited Electronic Messages Ordinance

The UEMO sets out the rules about sending CEMs, including the requirements to provide accurate sender information and honour unsubscribe requests. Under the UEMO, the Authority established three Do-Not-Call (DNC) registers to allow members of the public to register their numbers to indicate their choice of not receiving commercial facsimile messages, short messages and/or pre-recorded telephone messages. By the end of March 2019, more than 2.7 million numbers had been registered under these DNC registers.

The Authority will continue to monitor compliance with the UEMO by CEM senders and streamline the procedures for more effective enforcement.

Major Regulatory Actions

6.18 Sanctions against Broadcasting Licensees

Breach of Code of Practice by TVB

In May 2018, the Authority decided to impose a financial penalty of \$300,000 on TVB for its non-compliance with the provisions on indirect advertising prevailing at that time in the broadcast of four programmes collectively. The Authority considered that the exposures of and/or references to a mobile app service, which was provided by a corporate entity separate from TVB, in the programmes under complaint gave undue prominence to the service and constituted mingling of programmes and advertising materials.





Breach of Licence Conditions by a Non-domestic TV Licensee

In January 2019, the Authority decided to impose a financial penalty of \$100,000 on Times International Media Group Limited, a non-domestic TV licensee, for failing to provide service in accordance with its Licensee's Proposal between 1 January 2018 and 15 January 2019; and for failing to provide and maintain adequate standby equipment to avoid or minimise service interruption, which contravened Conditions 10.1 and 26 of its non-domestic TV licence.

6.19 Sanctions against Telecommunications Licensees

Disruptions of the Telecommunications Services of China Unicom (Hong Kong) Operations Limited (China Unicom)

On 27 February and 31 March 2018, there were two incidents of network outage of China Unicom, causing disruptions to its telecommunications services including mobile voice services, short message services and mobile data services. Having considered all the facts and circumstances of the case including OFCA's assessment and China Unicom's representations, the Authority concluded that China Unicom had failed to comply with General Condition 5.1 of its SBO Licence (Licence No. 922), which required it to operate, maintain and provide a good, efficient and continuous service in a manner satisfactory to the Authority. The Authority imposed a financial penalty of \$160,000 on China Unicom.

Breach by SmarTone in Relation to Mobile Number Porting

Between February and March 2018, 11 consumer complaints were received relating to porting of mobile numbers from the original mobile service providers to Birdie Mobile Limited, a reseller of SmarTone's mobile services, without the consent of the consumers concerned. Having considered all the facts and circumstances of the case including OFCA's assessment and SmarTone's representations, the Authority concluded that SmarTone had failed to comply with Special Condition 4.4 of its UCL (Licence No. 018) in relation to the requirements on mobile number porting. The Authority issued a warning to SmarTone.

6.20 Sanctions against Senders of Commercial Electronic Messages

From April 2018 to March 2019, the Authority received 637 reports on suspected contraventions of the UEMO, representing a decrease of about 6% as compared to the 677 reports received in the previous year. In dealing with these reports, the Authority would, depending on the circumstances, issue advisory letters to first time offenders explaining the requirements of the UEMO or issue warning letters to other CEM senders in more serious cases. During the period under review, 97 advisory letters and 24 warning letters were issued. In the event of repeated contraventions by a particular sender, the Authority may issue enforcement notices pursuant to the UEMO directing the sender to take steps to remedy the contraventions. Any persons who fail to comply with an enforcement notice may be liable to a fine of up to \$100,000 on the first conviction. In 2018/19, no enforcement notice was issued.





Acknowledgement

The Communications Authority would like to express its appreciation for the cooperation and support given by the following organisations in preparing the Report:

Television Broadcasts Limited

HK Television Entertainment Company Limited

Fantastic Television Limited

Hong Kong Cable Television Limited

PCCW Media Limited

Fox Networks Group Asia Pacific Limited

APT Satellite TV Development Limited

Starbucks (HK) Limited

Turner International Asia Pacific Limited

Sun Television Cybernetworks Enterprise Limited

Auspicious Colour Limited

Phoenix Satellite Television Company Limited

China Satellite TV Group Company Limited

Hong Kong TV International Media Group Limited

Health TV Company Limited

One TV Media Global Limited

Star China Media Limited

Hong Kong Commercial Broadcasting Company Limited

Metro Broadcast Corporation Limited

admanGo

CSM Media Research

TeleGeography

Commerce and Economic Development Bureau (Communications and Creative Industries Branch)

Office of the Communications Authority

Information Services Department

Radio Television Hong Kong

Summary of Non-Domestic Television Programme Services

Licensee	Date of Launch of Service	No. of Channels (no. receivable in HK)	Nature of Channels	Target Markets	Satellite
1. Fox Networks Group Asia Pacific Limited	4.1991	23 (0)	General entertainment, movie, music, sports & news etc.	Asian region including the Mainland, India & Middle East	AsiaSat 5 AsiaSat 7
2. APT Satellite TV Development Limited	8.2000	116 (6)	General entertainment, news, movies & sports	Asia-Pacific region & Africa	Apstar V Apstar VI Apstar VII Intelsat 19
3. Starbucks (HK) Limited	6.2000	1 (0)	Weather, sports, music and finance etc.	Asia-Pacific region	Apstar VII
4. Turner International Asia Pacific Limited	1989	11 (0)	News, finance, movie, children & family programmes	Asia-Pacific region & South Asia	AsiaSat 7 Intelsat 19 Intelsat 20 Measat 3A
5. Sun Television Cybernetworks Enterprise Limited	8.2000	1 (1)	History & culture-related documentaries	Asia-Pacific region	AsiaSat 7
6. GLOBECAST HONG KONG LIMITED	11.2001	14 (13)	General entertainment, sports & news	Asia-Pacific region	AsiaSat 5 AsiaSat 7
7. Auspicious Colour Limited	1.2006	43 (20)	General entertainment, infotainment & music	Asia-Pacific region	AsiaSat 5 AsiaSat 7 AsiaSat 9
8. Phoenix Satellite Television Company Limited	5.2006	4 (3)	General entertainment, news & movie	Asia-Pacific region	AsiaSat 7



Licensee	Date of Launch of Service	No. of Channels (no. receivable in HK)	Nature of Channels	Target Markets	Satellite
9. Times International Media Group Limited ^{Note}	6.2014	1 (1)	News, travel & infotainment	Asia-Pacific region	Chinasat 15
10. China Satellite TV Group Company Limited	11.2009	1 (1)	Infotainment	Asia-Pacific region	Apstar VII
11. Hong Kong TV International Media Group Limited	3.2011	1 (1)	Infotainment	Asia-Pacific region	Apstar VI
12. Health TV Company Limited	2.2013	1 (0)	Health information programmes, documentaries & general entertainment	Asia-Pacific region	Apstar V
13. One TV Media Global Limited	5.2013	1 (1)	News, finance & entertainment	Asia-Pacific region	Apstar V
14. Star China Media Limited	1.2014	3 (0)	Music programmes, entertainment news & general entertainment	Asia-Pacific region	AsiaSat 7

Note In June 2019, the Authority decided not to renew the non-domestic TV licence of Times International Media Group Limited under section 11(6) of the BO after the expiry of its licence on 28 September 2019.



Types and Numbers of Telecommunications Licences (as at 31 March 2019)

Type of Licences	Number of Licences	Type of Licences	Number of Licences
Academic Institution Self-provided Telecommunications Installation	2	Radio Dealers (Unrestricted)	3 880
Aeronautical VHF Fixed Station	34	Radiocommunications School	6
Aircraft Station	351	Radiodetermination and Conveyance of Commands, Status and Data	205
Amateur Station	2 620	Satellite Master Antenna Television	66
Broadcast Radio Relay Station & Broadcast Relay Station	15	Self-Provided External Telecommunications System	6
Experimental Station	82	Services-Based Operator of Class 1 Service, Class 2 Service and Services Other Than Class 1, Class 2 or Class 3 Service ^{Note A}	21
Fixed Carrier	1	Services-Based Operator of Class 3 Service	496
Hotel Television (Transmission)	163	Ship Station	2 506
Industrial, Scientific & Medical Electronic Machine	1 496	Space Station Carrier	12
Maritime Radio (Local Vessel)	1 556	Taxi Radiocommunications Service	23
Mobile Carrier	1	Unified Carrier - Mobile Services ^{Note B}	10
Mobile Carrier (Restricted)	0	Unified Carrier - Local/External Fixed Services ^{Note B and C}	51
Mobile Radio System Fixed Station	16	Wide Band Link & Relay Station	52
Mobile Radio System Mobile Station	1 812	Wireless Internet of Things	3
Private Mobile Radio System	2 065	Total	17 564
Private Radio Paging System	5		
Public Radiocommunications Service	8		

Note A: This figure includes 16 licences which are also authorised for the provision of SBO Class 3 services.

Note B: This figure includes five licences which are authorised to provide both fixed and mobile services.

Note C: This figure includes the two licences authorising the transmission of domestic television programme services.

Glossary

In alphabetical order	Abbreviation
Announcement in the Public Interest	API
Broadcasting (Miscellaneous Provisions) Ordinance (Cap. 391)	B(MP)O
Broadcasting Ordinance (Cap. 562)	BO
Chief Executive in Council	CE in C
China Unicom (Hong Kong) Operations Limited	China Unicom
Class Licence for Offer of Telecommunications Services	CLOTS
Commerce and Economic Development Bureau	CEDB
Commercial Electronic Message	CEM
Communications Association of Hong Kong	CAHK
Communications Authority	The Authority
Communications Authority Ordinance (Cap. 616)	CAO
Competition Commission	Commission
Competition Ordinance (Cap. 619)	CO
Customer Complaint Settlement Scheme	CCSS
Customs and Excise Department	C&ED
Digital Terrestrial Television	DTT
Director-General of Communications	DG Com
Domestic Free Television Programme	Free TV
Domestic Pay Television Programme	Pay TV
Do-Not-Call Registers	DNC Registers
Fantastic Television Limited	Fantastic TV



Annex 3: Glossary

In alphabetical order	Abbreviation
Fifth Generation (Mobile Services/Subscriptions)	5G (Mobile Services/Subscriptions)
Fixed Carrier Licence	FCL
Fourth Generation (Mobile Services/Subscriptions)	4G (Mobile Services/Subscriptions)
Gigabits per second	Gbps
GLOBECAST HONG KONG LIMITED	Globecast
High Definition Television	HDTV
HK Television Entertainment Company Limited	HKTVE
Hong Kong Cable Television Limited	HKCTV
Hong Kong Commercial Broadcasting Company Limited	CRHK
Independent Mediation Service Centre under CAHK	CCSS Centre
Internet of Things	IoT
Megabits per second	Mbps
Memorandum of Understanding	MoU
Metro Broadcast Corporation Limited	Metro
Mobile Carrier Licence	MCL
Mobile Network Operator	MNO
Mobile Virtual Network Operator	MVNO
Non-domestic Television Programme	Non-domestic TV
Office of the Communications Authority	OFCA
Other Licensable Television Programme	Other Licensable TV
PCCW Limited	PCCW





In alphabetical order	Abbreviation
PCCW Media Limited	PCCW Media
Public Radiocommunications Service	PRS
Radio Television Hong Kong	RTHK
Satellite Earth Stations for Telemetry, Tracking and Control of Licensed Satellites in Orbit	TT&C stations
Second Generation (Mobile Services/Subscriptions)	2G (Mobile Services/Subscriptions)
Secretary for Commerce and Economic Development	SCED
Services-based Operator	SBO
SmarTone Mobile Communications Limited	SmarTone
Spectrum Utilisation Fee	SUF
Telecommunications Ordinance (Cap. 106)	TO
Television Broadcasts Limited	TVB
Third Generation (Mobile Services/Subscriptions)	3G (Mobile Services/Subscriptions)
Trade Descriptions Ordinance (Cap. 362)	TDO
Unified Carrier Licence	UCL
Universal Service Obligation	USO
Universal Service Provider	USP
Unsolicited Electronic Messages Ordinance (Cap. 593)	UEMO
Wireless Internet of Things	WIoT





通訊事務管理局
COMMUNICATIONS
AUTHORITY

Communications Authority

For broadcasting matters:

Address : 20/F, Wu Chung House, 213 Queen's Road East,
Wan Chai, Hong Kong

Telephone Enquiries : (852) 2961 6333 Fax : (852) 2507 2219

Email : webmaster@ofca.gov.hk

For telecommunications and Unsolicited Electronic Messages matters:

Address : 29/F, Wu Chung House, 213 Queen's Road East,
Wan Chai, Hong Kong

Telephone Enquiries : (852) 2961 6333 Fax : (852) 2803 5110

Email : webmaster@ofca.gov.hk

Website : www.coms-auth.hk

