



通訊事務管理局
COMMUNICATIONS
AUTHORITY



ANNUAL 年 REPORT 報 2017/18



CONTENTS

CHAPTER 1

Vision and Mission

2

CHAPTER 4

Role and Functions of
the Communications Authority

10

CHAPTER 2

Chairman's Message

4

CHAPTER 5

Overview of Major Developments
in the Communications Market

14

CHAPTER 3

Members of
the Communications Authority

8

CHAPTER 6

Review of the Communications Authority's
Major Tasks

36



CHAPTER 7

Acknowledgement

52

ANNEX 1

Summary of Non-domestic Television
Programme Services

54

ANNEX 2

Types and Numbers of
Telecommunications Licences

56



CHAPTER 1:

Vision and Mission

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).

CHAPTER 2: Chairman's Message

It is a great pleasure for me to present the report of the Communications Authority (the Authority), which provides a detailed account of the tasks undertaken by the Authority for the year ended 31 March 2018 and the challenges that lie ahead.



A VIBRANT BROADCASTING MARKET

Relaxation of the Regulation of Indirect Advertising

One of the major tasks of the Authority in 2017/18 was the review of the regulations governing indirect advertising in television programme

services. Having regard to the views collected from the industry and the public, the Authority decided to relax the regulation of indirect advertising with effect from 27 July 2018. The relaxation sought to facilitate broadcasting licensees to diversify their source of advertising while safeguarding the interests of the audience. The Authority will closely monitor the implementation of the new rules.

More Programme Choices in Domestic Free Television Programme Services

Fantastic Television Limited (Fantastic TV) launched its Chinese channel on 14 May 2017 and its English channel on 30 July 2018. Together with HK Television Entertainment Company Limited (HKTVE) and Television Broadcasts Limited (TVB), the three licensees are providing a total of 12 digital and analogue channels with a wide variety of programmes.

RAPID GROWTH OF THE TELECOMMUNICATIONS MARKET

Hong Kong's telecommunications market continued to flourish during the year under review. By March 2018, the number of mobile subscribers reached 18.39 million, including over 17 million users of the third generation (3G) and fourth generation (4G) mobile services. Mobile network operators and mobile virtual network operators 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 (LTE) technology. In March 2018, the monthly mobile data usage further surged to 32 444 Terabytes¹, representing 1.3 times and 1.6 times of the monthly usage over the same period in 2017 and 2016 respectively. The mobile data usage per capita rose to 4 379 Megabytes in March 2018, compared with 3 436 Megabytes in March 2017 and 2 812 Megabytes in March 2016. The increasing popularity of 4G mobile services has further boosted mobile data usage. The Authority will continue to put in place 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 available sufficient spectrum to meet the huge spectrum demand for the provision of public mobile services and to prepare Hong Kong for the launch of the fifth generation (5G) mobile services. In December 2017, the Authority issued an Invitation for Expression of Interest (EOI Invitation) to solicit views from the local industry and other interested parties on using the 4 100 MHz of spectrum in the 26 GHz band (24.25 – 27.5 GHz) and the 28 GHz band (27.5 – 28.35 GHz) for the provision of 5G mobile services in Hong Kong. The Authority also decided in March 2018 to re-allocate the 3.5 GHz band (3.4 – 3.7 GHz) from satellite service to mobile service. The Authority has conducted public consultations on the proposed arrangements for the assignment of the above spectrum. We will make a final decision on the assignment arrangements by the end of this year, taking into account views received in the consultation process. Meanwhile, we will continue to identify other new spectrum suitable for the provision of 5G services. Our goal is to make available sufficient spectrum for the industry to enable the commercial launch of 5G services in the timeframe of 2020.

Following the promulgation of the Authority's decision of 24 June 2016 to implement measures in three phases to meet the increasing demand for mobile numbers through better utilisation of the 8-digit numbering plan, Phases 1 and 2 were successfully implemented from 1 January and 1 July 2017 respectively. The Authority will continue to work with the industry and the parties concerned and prepare for the implementation of the remaining phase from 1 July 2021. The Authority will also closely monitor market developments

¹ Estimated figures subject to adjustments to be made by operators.



and the effectiveness of the newly implemented measures.

The work that lies ahead will be as diverse and challenging as that in 2017/18. I would like to take this opportunity to express my appreciation to my predecessor, Mr Huen Wong, for his leadership in the past year, and my gratitude to members of

the Authority for their advice and commitment throughout the year. I am also thankful to colleagues of the Office of the Communications Authority (OFCA) for their tireless efforts in supporting the Authority. With their dedication and professionalism, the Authority will continue to strengthen Hong Kong's position as Asia's most attractive and competitive communications hub.

CHAPTER 3:

Members of the Communications Authority (April 2017 – March 2018)



CHAIRMAN (*until 8 February 2018*)

Mr Huen WONG, BBS, JP

Communications Authority



CHAIRMAN (*from 12 March 2018 onwards*)

Ms Winnie TAM Wan-chi, SC, JP

Communications Authority

VICE-CHAIRMAN
(*until 17 August 2017*)



**Miss Susie
HO Shuk-yee, GBS, JP**

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

VICE-CHAIRMAN
(*from 18 August 2017 onwards*)



**Miss Eliza
LEE Man-ching, JP**

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

MEMBERS



Mr Stephen HUNG Wan-shun



**Mrs Yvonne LAW
SHING Mo-han, BBS, JP**



Mr Thomas LO Sui-sing, JP



Mr Alan LUI Siu-lun



Mr Hubert NG Ching-wah



**Dr Anthony William
SEETO Yiu-wai**



**Mr Benjamin TANG Kwok-bun,
GBS**



**Mr Adrian WONG Koon-man,
BBS, JP**



Prof XU Yan



Miss Eliza LEE Man-ching, JP
Director-General of Communications
(until 14 August 2017)



Miss Agnes WONG Tin-yu, JP
Director-General of Communications
(from 15 August 2017 onwards)

CHAPTER 4:**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 as an independent statutory body under the Communications Authority Ordinance (Cap. 616) (CAO) and took over fully the functions and powers of the former Telecommunications Authority (TA) and Broadcasting Authority (BA). 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 the Secretary for Commerce and Economic Development (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 2017 to March 2018, 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*.

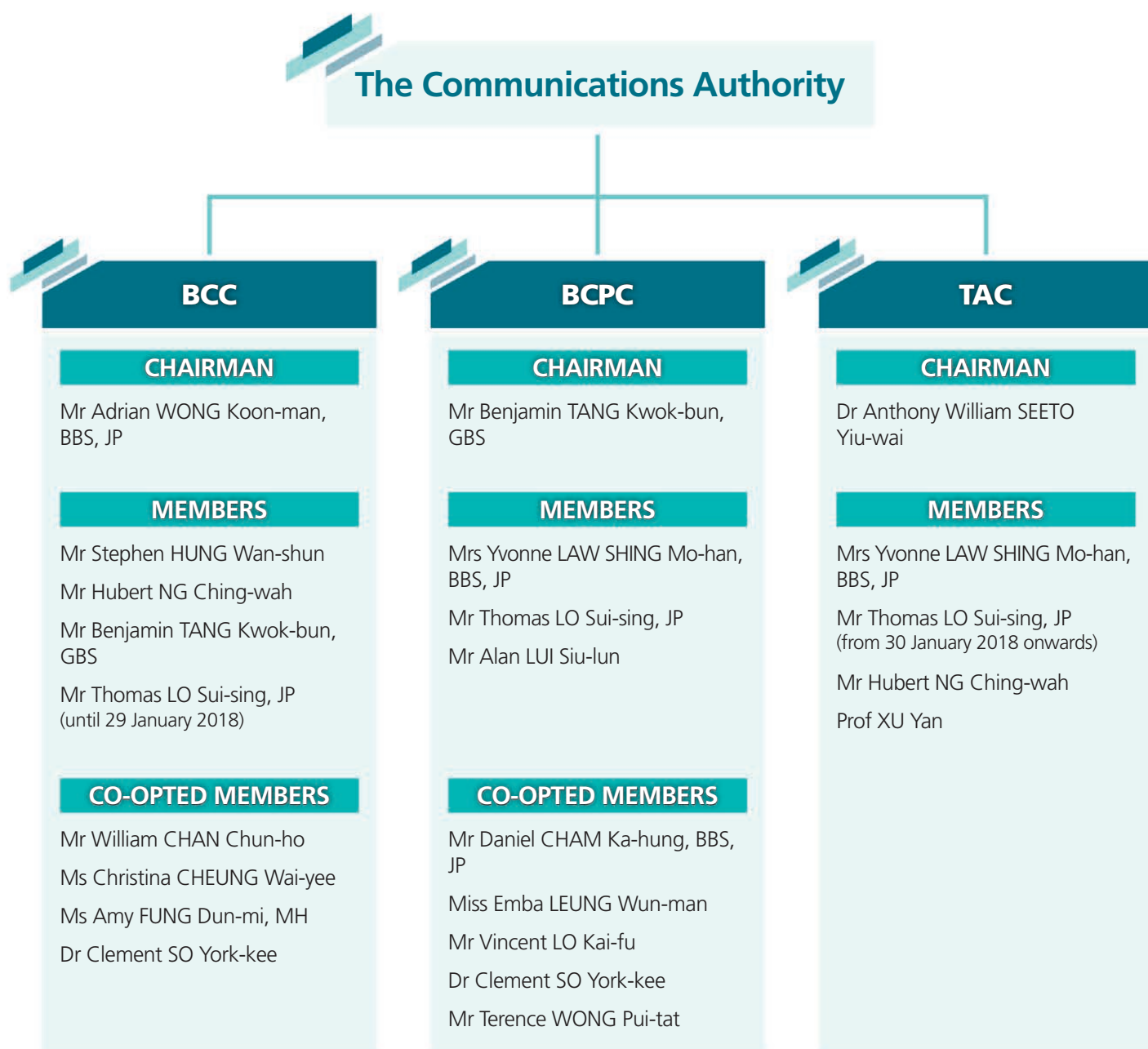
The ***Broadcast Complaints Committee (BCC)*** is responsible for considering complaints about broadcasting issues and making recommendations to the Authority regarding such complaints. During the period from April 2017 to March 2018, it comprised five Authority members and four co-opted non-official members.

The ***Broadcast Codes of Practice Committee (BCPC)*** 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 2017 to March 2018, it comprised four Authority members and five co-opted members.

The ***Telecommunications Affairs Committee (TAC)*** 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



CHAPTER 5:

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 2018, the total number of free TV, pay TV and non-domestic TV licensees was 19. They provided 592 television channels², of which

460 were receivable in Hong Kong, representing a slight decrease of 1% since March 2017. An overview of the channels provided by the television programme service licensees is shown in **Figure 1**.



As at March 2018, there were three **free TV licensees**, viz. Fantastic TV, HKTVE and TVB, and they provided a total of 11 channels³. Three channels ("Fantastic TV Chinese Channel"⁴, "Jade" and "Pearl"⁵) were simulcast in both analogue and digital formats while five were digital channels. HKTVE's digital channels comprised two HDTV channels, viz. "ViuTV" and "ViuTVsix". TVB's digital channels comprised three HDTV channels, namely, "J2", "TVB News Channel" (formerly "iNews") and "TVB Finance & Information Channel" (formerly "J5"). 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.

² Some channels were provided by more than one licensee at the same time.

³ Fantastic TV launched its second channel, "Hong Kong International Business Channel", on 30 July 2018.

⁴ Fantastic TV Chinese Channel was renamed as "Hong Kong Open TV" with effect from 27 October 2018.

⁵ The digital simulcast of "Fantastic TV Chinese Channel", "Jade" and "Pearl" channels is broadcast in high definition television (HDTV) format.

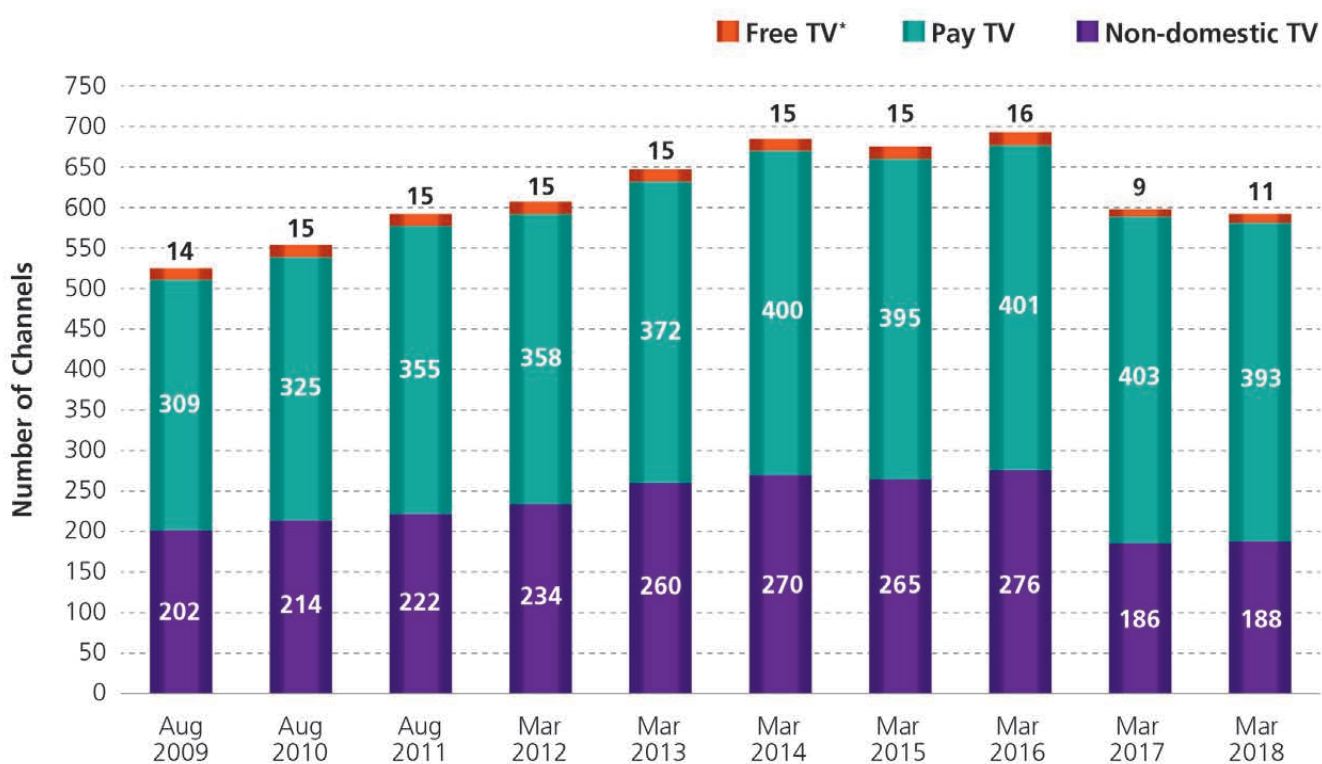


As at March 2018, there were two **pay TV licensees**, viz. Hong Kong Cable Television Limited (HKCTV) and PCCW Media Limited (PCCW Media), providing a total of 393 pay television channels and offering a diversity of local and overseas productions. Over 120 HDTV channels were offered by the licensees within the same period.

As at March 2018, there were 14 **non-domestic TV licensees** providing a total of 188 television channels, 56 channels of which were available to Hong Kong viewers, representing an increase of 6% in the number of channels available to Hong Kong viewers since March 2017.



Figure 1: Television Channels Provided by Television Programme Service Licensees in Hong Kong (as at 31 March 2018)



Sources: Licensees

* The simulcast channels of Asia Television Limited (2009-2016), TVB (2009-2018) and Fantastic TV (2018) are counted for both the analogue and digital platforms.

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

In addition to television channels provided by television programme service licensees, Hong Kong viewers can receive free unencrypted satellite television programme channels uplinked from Hong Kong and elsewhere. As at March 2018, there were more than 400 such free-to-air satellite television channels available for reception via the Satellite Master Antenna Television (SMATV) 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 2018, 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 regime for television programme services in Hong Kong as enshrined in the BO is technology-neutral⁶. Licensees are free to choose their transmission arrangements for delivery of television services. Broadcasters can 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 can engage any of the existing carrier licensees to provide the transmission service. Licensees can 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**.

⁶ An exception is that a service provided on the Internet is exempted from the regulatory regime under the BO.

Figure 2: Transmission Modes Employed by Television Programme Service Licensees

Licensee	Transmission Mode	Network Coverage as at March 2018
Free TV		
TVB	Terrestrial UHF⁷, including (a) Analogue PAL-I format; and (b) Digital National Standard format	99% of population
HKTVE	Terrestrial UHF and Fixed broadband network	99% of population
Fantastic TV	HFC⁸ and MMDS⁹	Around 93% of total households
Pay TV		
HKCTV	HFC, MMDS and satellite (Digital)	Around 96% of total households
PCCW Media	PON and DSL¹⁰ Broadband network (Digital)	Around 97% of total households
Non-domestic TV		
All the 14 licensees	Satellite (Digital)	34% of total households (880 568 households) ¹¹

7 Terrestrial Ultra High Frequency.

8 Hybrid Fibre Coaxial Cable.

9 Microwave Multipoint Distribution System.

10 Passive Optical Network and Digital Subscriber Line.

11 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.

Penetration of Different Broadcasting Services

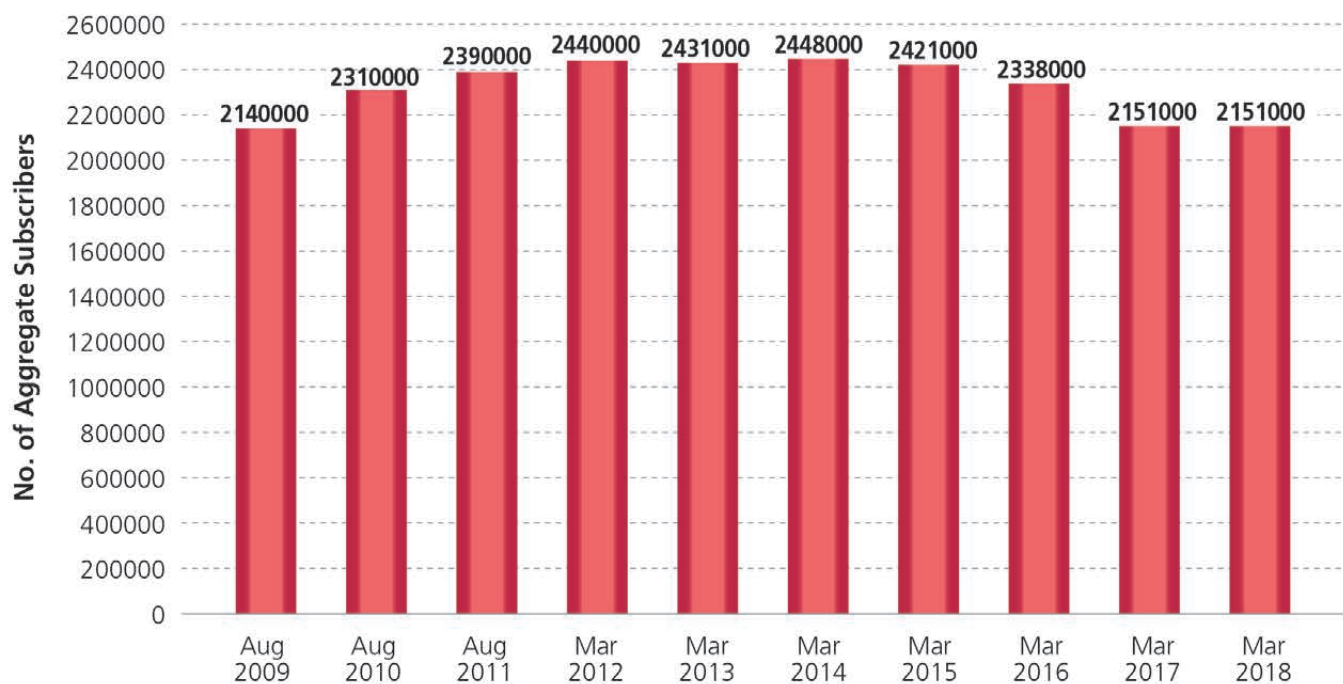
For free TV services, the penetration rate of analogue broadcasting stood at about 98% of the total households as at end of March 2018¹². As regards digital terrestrial television (DTT) services, the take-up rate was about 88% of all the households in October 2017¹³.

The penetration of licensed pay TV services was about 85%¹⁴ of the total households as at end of March 2018. The total number of subscribers to licensed pay TV services stood at about 2.1 million



in March 2018¹⁵. The changes in total number of subscribers from 2009 to 2018 are shown in **Figure 3**.

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



Sources: Licensees

12 Source: CSM Media Research.

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

14 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.

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

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 and 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 to improve the AM programme services. The services practically covered the whole territory of Hong Kong.

5.1.3 Broadcasting Revenues and Investment

Licensed broadcasting services contributed an estimated \$8.18 billion¹⁶ to the Hong Kong economy, which represented about 0.3% of the gross domestic product in 2017. 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 sales of advertising spots within programme breaks. Pay TV licensees, on the other hand, derive their incomes mainly from subscription fees while sales of advertising spots remain a secondary income source.



Advertising Revenue

According to the report of admanGo, the advertising expenditures on television and radio accounted for 32% (about \$13.41 billion) and 4% (about \$1.68 billion) respectively of the accumulated \$41.9 billion advertising expenditures in the media in 2017¹⁷.

In 2017, the actual advertising revenues of HKTVE and TVB were around \$185 million and \$2.46 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 "now" brand was \$2.75 billion in 2017, representing a decrease of 5% over the figure in 2016.

The subscription revenue of HKCTV is not publicly available.

¹⁶ Source: Company reports of major broadcasting licensees.

¹⁷ Source: Adspend Report for 2017 of admanGo. All the advertising expenditures presented in the report have taken into consideration the discount factor based on an assumption of 60% off rate card rate.

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.

Fantastic TV, HKTVE and TVB have 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 respectively for the provision of free TV services. Investment commitments of Fantastic TV, HKTVE and TVB comprise capital expenditures and programming expenditures. As at March 2018, both Fantastic TV and HKTVE provided a total of 168 hours of HDTV programmes per week, while TVB provided a total of 807 hours of such programmes per week. Fantastic TV and TVB have also committed

to increasing the amount of independent local productions in their programming progressively¹⁸.

As regards the pay TV market, i-CABLE Communications Limited, the parent company of HKCTV, reported in its 2017 Final Results Announcement that the capital expenditure of the group for the year had decreased from \$238 million in 2016 to \$208 million in 2017. Its major items of investment included property, plant and equipment. According to the 2017 Annual Report of PCCW, the parent company of PCCW Media, the capital expenditure for the year on its media business was \$235 million, representing an increase of 22% over the figure in the previous year. Its major items of investment included the 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 commitment of CRHK and Metro covers programming improvement and upgrading of infrastructure and facilities and other developments brought by technological advancement to further enhance their service quality.



¹⁸ 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.



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 2018, the licensees broadcast about 67 478 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 eight digital channels of Fantastic TV, HKTVE and TVB provided a total of 1 293 broadcast hours per week, while the 393 channels of the two pay TV licensees provided a total of 56 274 broadcast hours per week. As at March 2018, the 56 channels of non-domestic TV licensees receivable in Hong Kong provided a total of 9 408 broadcast hours per week.

The weekly number of broadcast hours for CRHK, Metro and RTHK as at March 2018 was 2 184.

For the period under review, there were a total of 39 630 hours of station productions broadcast on

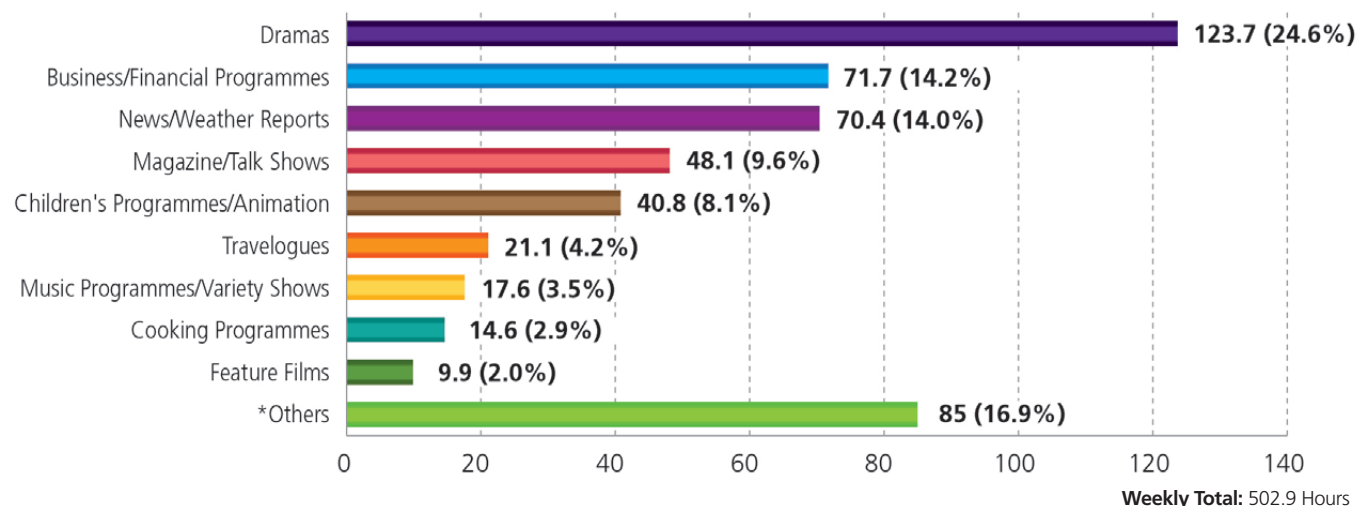
Fantastic TV, HKTVE and TVB, of which 10 370 hours were on analogue channels and 29 260 hours on digital channels. Of the 393 channels provided by pay TV licensees, 76 channels (19.3%) were produced by the licensees themselves.

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. "Fantastic TV Chinese Channel", "Jade" and "ViuTV"). Drama series on "Jade" were mostly in-house productions; while "Fantastic TV Chinese Channel", "Jade" and "ViuTV" broadcast Mainland, Korean and Japanese drama series. In addition, children's programmes/animation, magazine/talk shows, business/financial programmes, 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 Programme Broadcast on Fantastic TV Chinese Channel, Jade and ViuTV as at March 2018



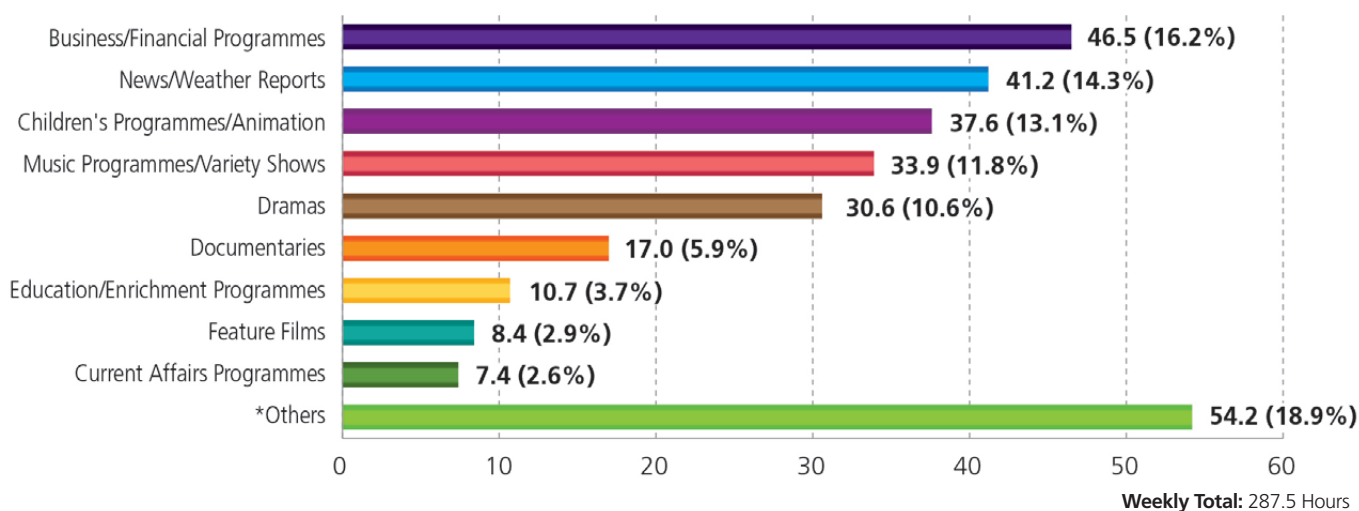
* Other programmes include hobbies and leisure programmes, documentaries and programmes for senior citizens etc.

Sources: Fantastic TV, HKTVE & TVB

The English channels (viz. "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 Programme Broadcast on Pearl and ViuTVsix as at March 2018



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

Sources: HKTVE & TVB



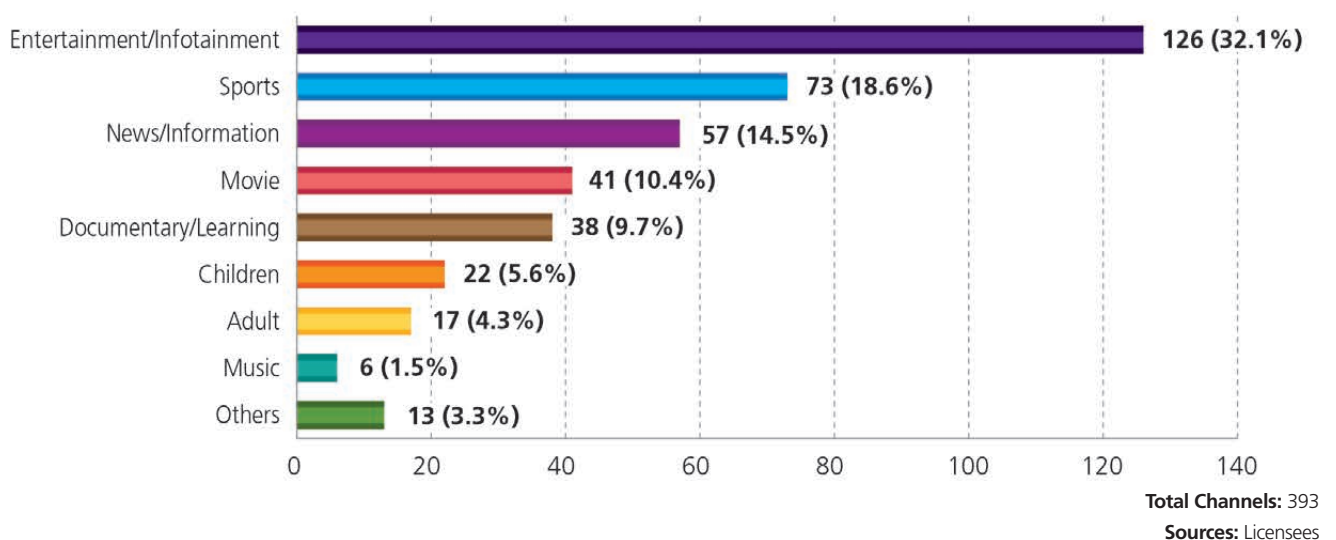
Thematic Channels

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 (32.1%), sports channels (18.6%), news/information channels (14.5%), movie channels (10.4%), and documentary/learning channels (9.7%).

Figure 6: Nature of Pay TV Channels as at March 2018



As at March 2018, HKCTV offered 133 channels (including 38 HDTV channels). PCCW Media's "now TV" service offered 195 channels (including 86 HDTV channels) and 65 video-on-demand services.

Sound Broadcasting

As at March 2018, 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

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 programmes¹⁹ per week. They all met the requirements²⁰.

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.

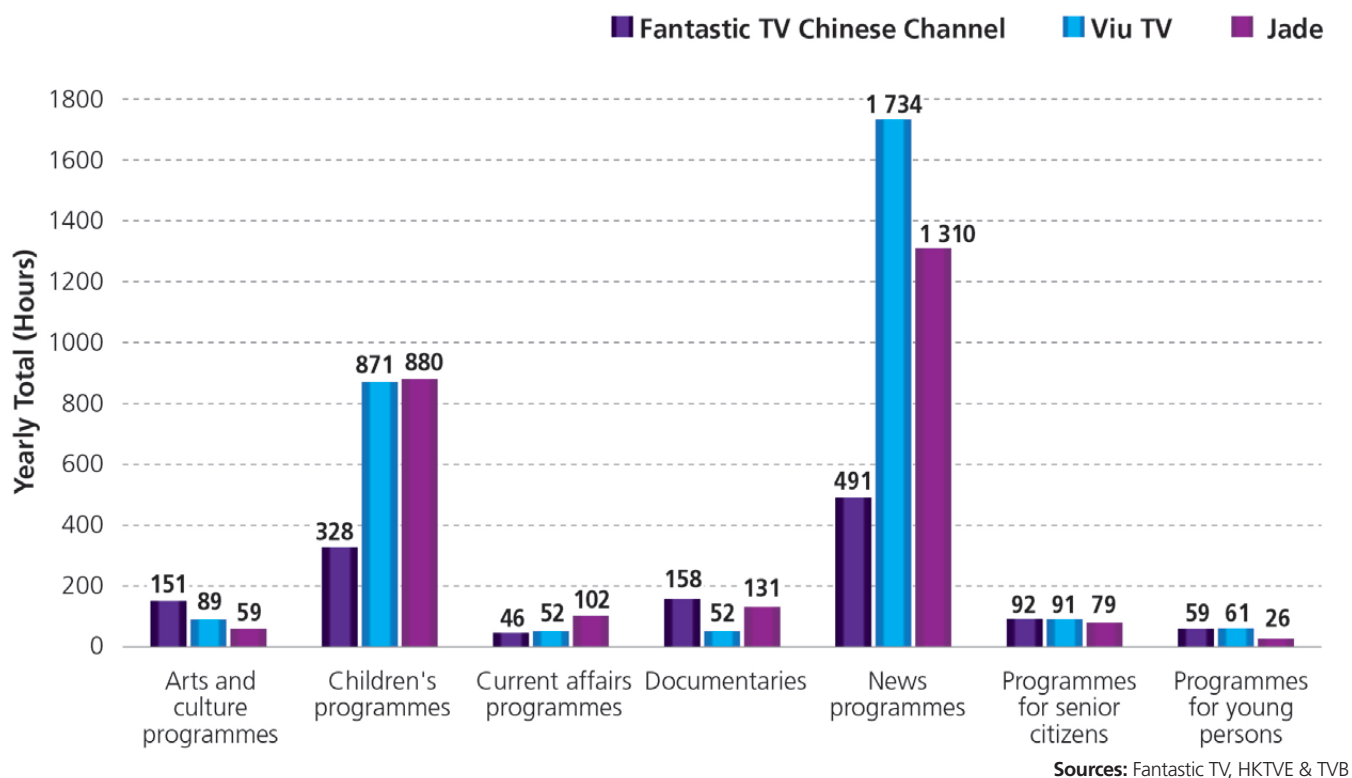
¹⁹ The positive programmes that Fantastic TV, HKTVE and TVB were required to broadcast included news, current affairs programmes, documentaries, arts and culture programmes, children's programmes and programmes for senior citizens and young persons.

²⁰ 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 2018



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 are 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 channels²¹. 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 TV²², HKTVE²³ and TVB complied with the requirements on provision of subtitles.

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 are 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 channels²⁴. During the period under review, Fantastic TV, HKTVE and TVB broadcast a total of 1 140 hours of the two types of materials²⁵.

21 TVB is 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.

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

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

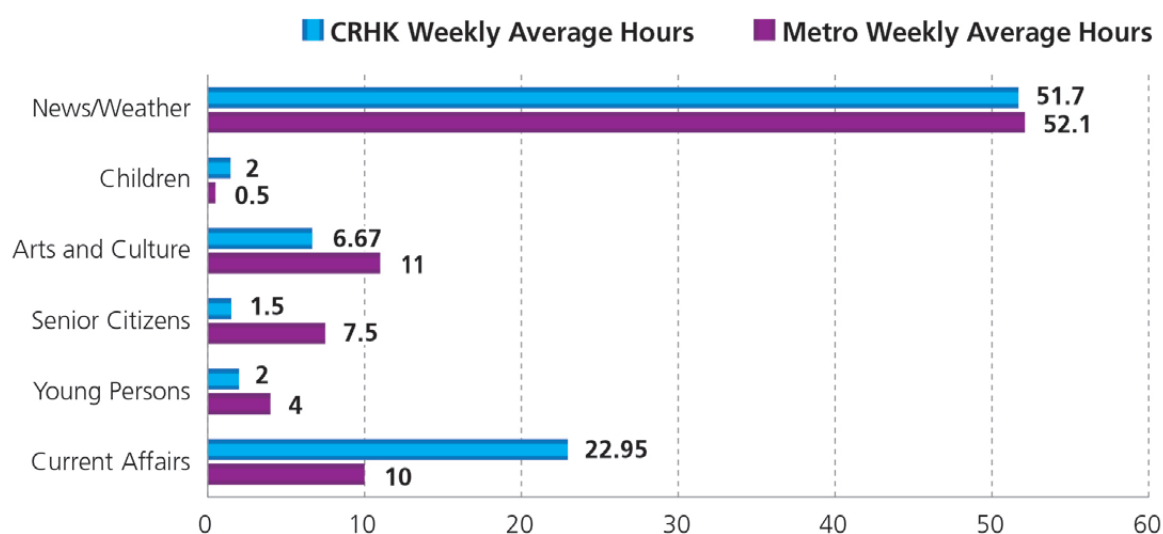
24 TVB is required to broadcast two minutes of publicity material for the Authority per week on its thematic digital channels.

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

As regards sound broadcasting services, sound broadcasting licensees were required to broadcast at least 28.5 hours of positive programmes²⁶ 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 in each service channel. All licensees complied with the requirements.

Figure 8: Broadcast of Positive Programmes on Sound Broadcasting Services as at March 2018



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 188 satellite television channels with 56 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 2018 is at **Annex 1**.



²⁶ The positive programmes that CRHK and Metro were required to broadcast included news and weather programmes, current affairs programmes, art and culture programmes and advisory programmes, viz. programmes for young persons, senior citizens and children.

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 2017, the telecommunications sector employed around 20 400 persons whilst its gross output amount to \$93 billion in 2016.

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 Regime

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 regime 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 UCL to replace their licences before or upon expiry.

As at March 2018, there were a total of 61 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 five holders of FCLs and one holder of MCL and 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, oneway data message services and public mobile radio data 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 2018, there were a total of seven 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, mobile virtual network operator service, private payphone service, public radio communications relay service,

security and fire alarm signals transmission service, teleconferencing service and mobile communications service on board an aircraft.

As at March 2018, there were a total of 522 SBO licensees.

Class Licences

The class licensing regime does not require any licence application. Parties meeting the specified eligibility criteria and conditions would 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 is keen. As at March 2018, four mobile network operators, namely, China Mobile Hong Kong Company Limited (CMHK), Hong Kong Telecommunications (HKT) Limited (HKT), Hutchison Telephone Company Limited (HTCL) 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 mobile network operators as it enables customers to retain their telephone numbers when they switch to another mobile network operator.

The four mobile network operators provide second generation (2G), 3G and 4G services in Hong Kong at very affordable prices. As at March 2018, there were about 18.39 million subscribers to mobile communications services. This represents a population penetration of 248.2%, one of the highest in the world. The number of 3G/4G users reached 17 million in March 2018, representing a population penetration of 231.9%. Through spectrum refarming, more spectrum is now used for 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 32 444 Terabytes²⁷ in March 2018, representing 1.3 times and 1.6 times the monthly usage over the same period in 2017 and 2016 respectively. The mobile data usage per capita reached 4 379 Megabytes in March 2018, compared with 3 436 Megabytes in March 2017 and 2 812 Megabytes in March 2016. The continued development of 4G mobile services is expected to further boost mobile data usage in the future.

27 Estimated figures subject to adjustments to be made by operators.

Figure 9: Number of Mobile Subscribers (2008 to 2017)

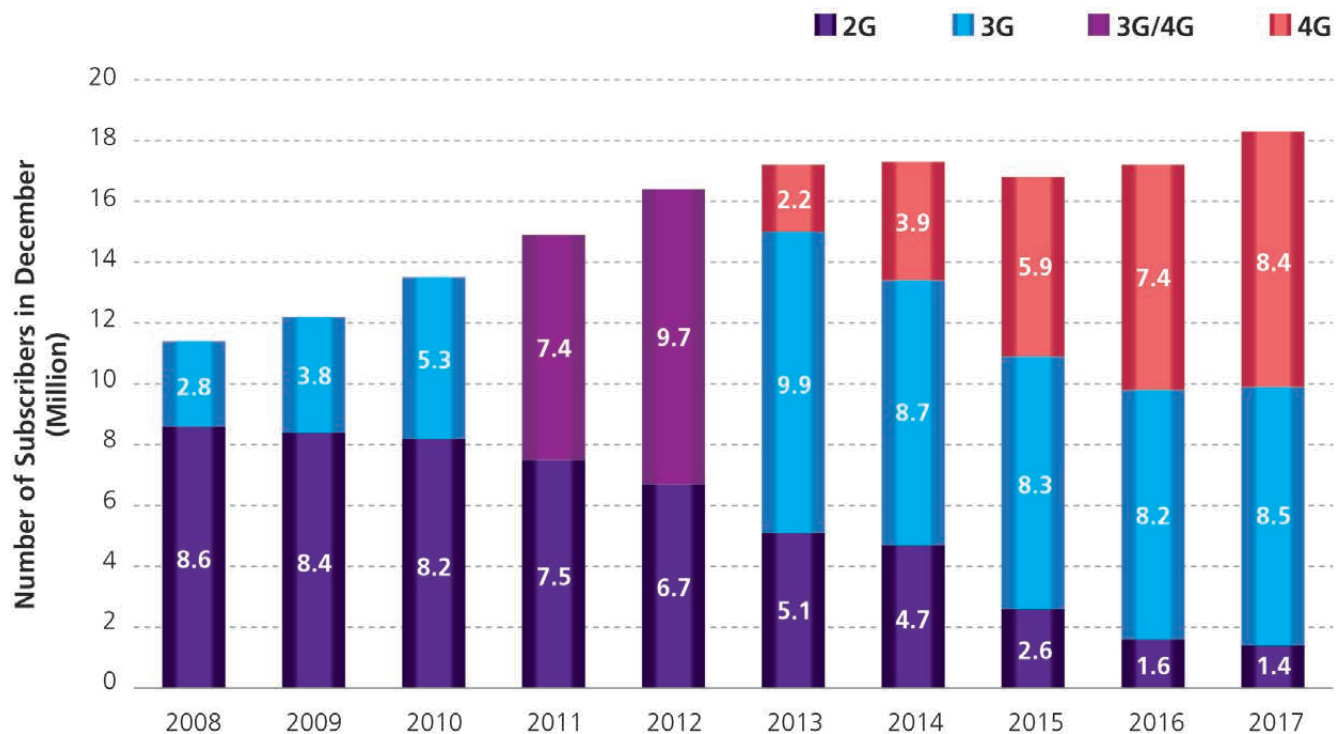


Figure 10: Mobile Customers using Postpaid and Prepaid SIM (2008 to 2017)

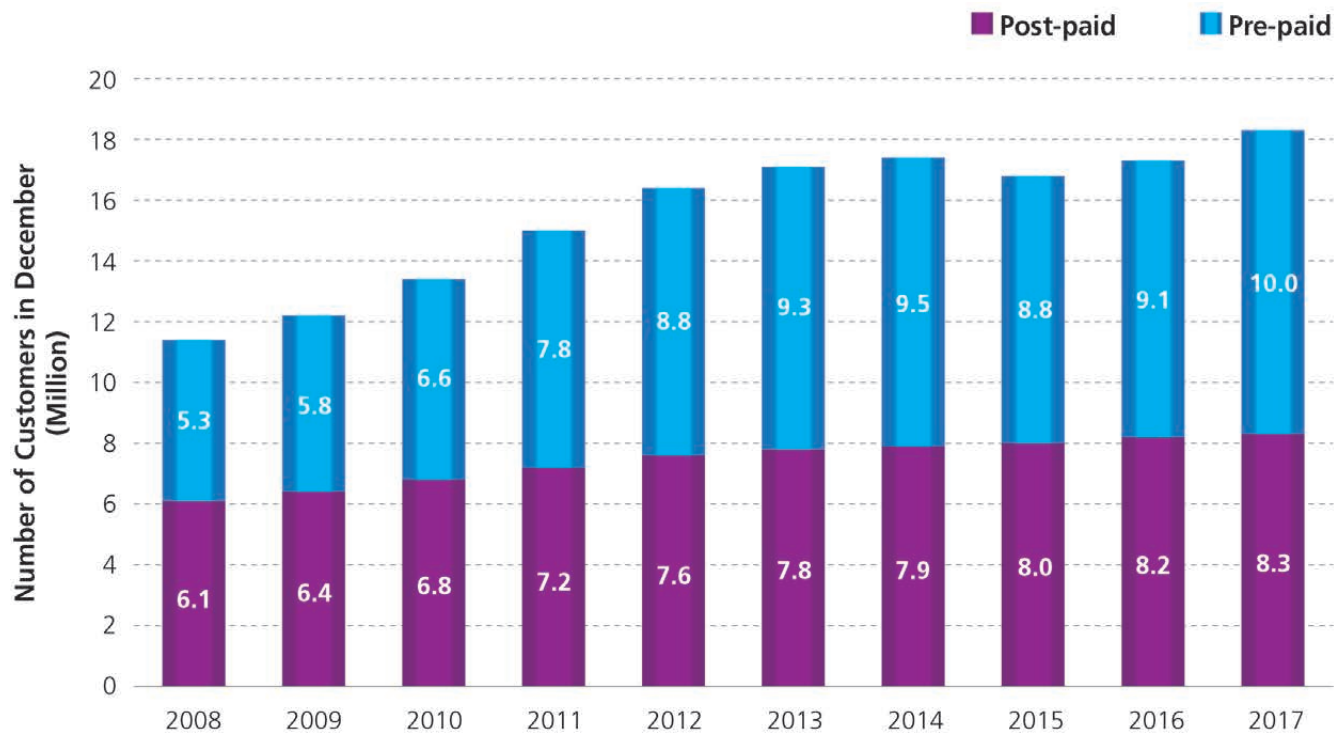
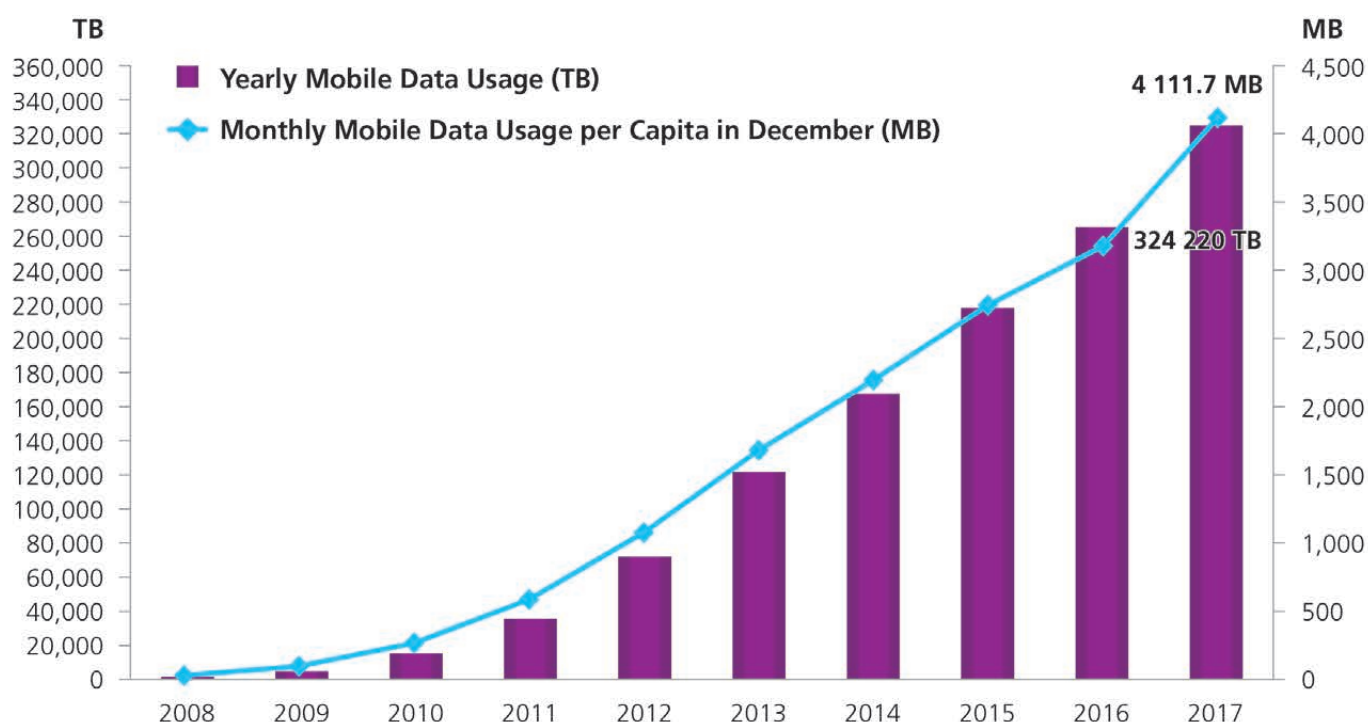


Figure 11: Mobile Data Usage (2008 to 2017)



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 2018, there were 26 local fixed carriers, providing around 94 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 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
- WTT HK Limited

As a result of the active network roll-out by fixed carriers and the former TA's initiative to encourage further network roll-out by the withdrawal of mandatory Type II interconnection policy in mid-2008, 88.9% and 79.1% of households were able to enjoy a choice of at least two and three self-built customer access networks respectively as at March 2018. It is expected that the figures will keep growing as the carriers continue to roll out their networks.

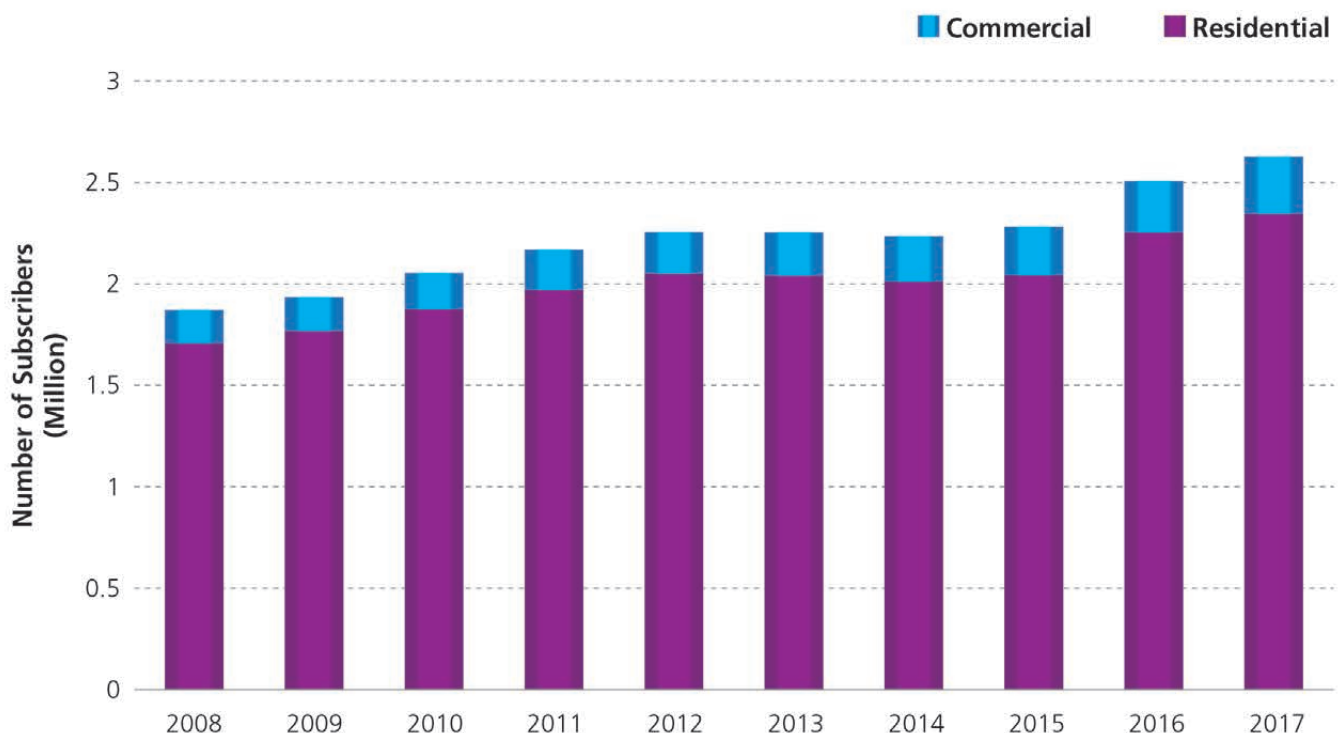
Local fixed carriers are required to facilitate fixed number portability which enables consumers to switch to another fixed carrier without having to change their telephone numbers.

Fixed Broadband Services

As at March 2018, 26 facility-based operators and 209 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 2018, there were around 2.66 million residential and commercial fixed broadband subscribers, with a household penetration rate of 93%. Broadband services are available at speeds up to 10 Gbps. Around 83% of the broadband subscribers are using service plans with speeds at 10 Mbps or above. The statistics of fixed broadband subscribers as at March 2018 and the statistics for the past 10 years are shown in **Figure 12** and **Figure 13** respectively.

Figure 12: Statistics of Fixed Broadband Subscribers as at March 2018

	No. of subscribers	% share
Total No. of broadband subscribers	2 658 068	
Broadband speed of 10Mbps or above	2 213 354	83.3%
Broadband speed below 10Mbps	444 714	16.7%
Residential	2 369 050	89.1%
Commercial	289 018	10.9%

Figure 13: Fixed Broadband Subscribers (2008 to 2017)

Next Generation Networks

Traditional telecommunications networks are built based on circuit-switched technologies and are primarily designed for the conveyance and provision of dedicated telecommunications services. With the advent of new technologies, it is now possible to build a single network for the conveyance and provision of a variety of services, including fixed voice telephony service, data service, mobile service and television service. Such new networks, commonly referred to as next generation networks (NGNs), serve as an open platform through which service providers are able to develop innovative services and applications, and establish direct relationship with their customers.

In Hong Kong, the development of NGNs has always been driven by technical and commercial considerations of carriers. The major network

operators have already launched their NGNs. With the advent of NGN, the Authority will remain vigilant about the challenges to be brought about by NGN and ensure that the regulatory framework remains updated and appropriate in the NGN era. After the completion of a consultancy study commissioned to examine the implication of NGN development on the regulatory framework in Hong Kong, OFCA reconvened the NGN working group between 2012 and 2016 to follow up on the relevant recommendations made by the consultant and other issues pertaining to the development of NGN in Hong Kong. With the support of the Telecommunications Regulatory Affairs Advisory Committee, a technical regulatory working group has been established since 2016 to take up the work under the NGN working group and to study the various technical regulatory issues related to telecommunications networks, systems and services in Hong Kong. OFCA will continue

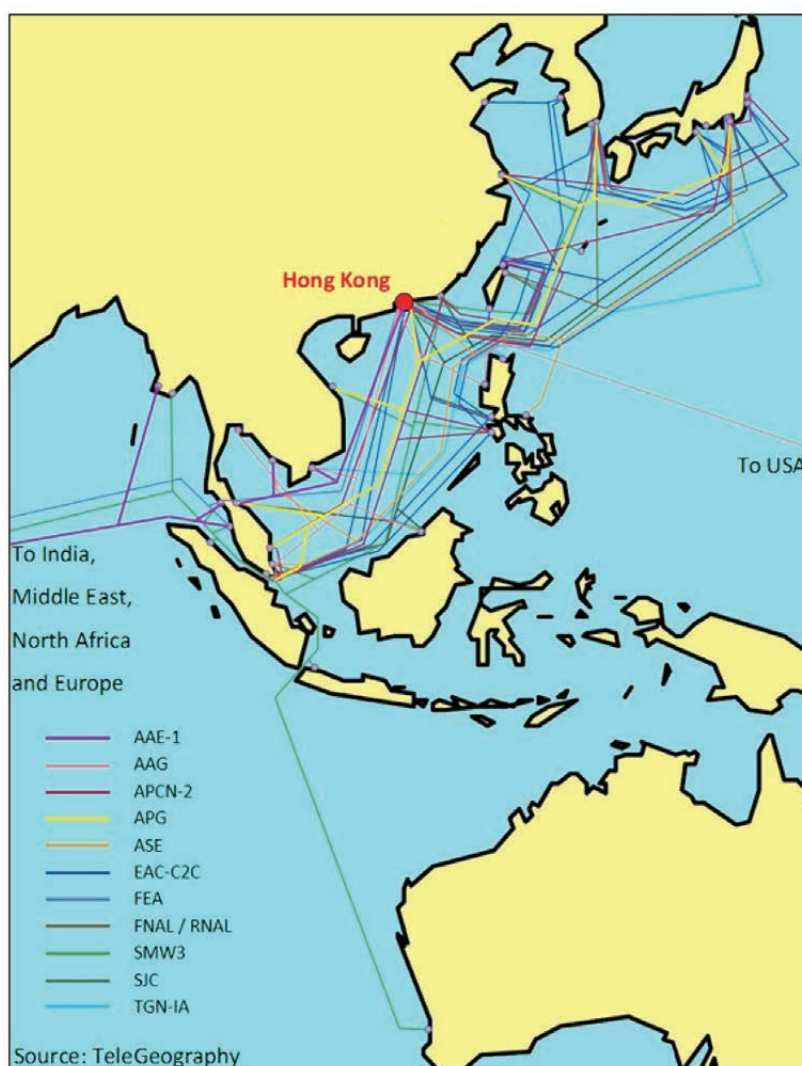
As at March 2018, there were eight cable landing stations in Hong Kong: two in Tong Fuk, three in Tseung Kwan O and one each in Deep Water Bay, Chung Hom Kok and Cape D'Aguilar, making it a major telecommunications and Internet hub in the region.

Operators have been actively rolling out Wi-Fi networks. Eight network operators and 138 class licensees are providing public Wi-Fi services. As at March 2018, there were 50 939 public Wi-Fi hotspots in the city and the number continued to grow. Free Wi-Fi services were available to the public in 636 government premises.

The external telecommunications facilities market has been fully liberalised since 2000. As at March 2018, 42 fixed carriers were authorised to provide cable-based and/or non-cable-based external telecommunications facilities.

In March 2018, 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 2018, the total equipped external capacity exceeded 59 856 Gbps. Total external telephone traffic was 4.2 billion minutes for the period from 1 April 2017 to 31 March 2018. Landing of four additional submarine cable systems is in the pipeline and they are expected to be ready for service between 2018 and 2020.



Figure 14: Submarine Cables between Hong Kong and Other Countries

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 antennas 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 2018, two Hong Kong companies were licensed to operate

and provide satellite communication services, namely, Asia Satellite Telecommunications Company Limited (AsiaSat) and APT Satellite Company Limited (APT). AsiaSat and APT were established in 1988 and 1992 respectively.

Currently, a total of 11 in-orbit satellites are operated by AsiaSat and APT. The two companies have entered a new investment cycle of launching new satellites for replacement and provision of new business. APT submitted an application in June 2017 to launch a new satellite in the second quarter of 2018.

CHAPTER 6:Review of the
Authority's Major
Tasks**BROADCASTING****6.1 Monitoring the Roll-out of
New Free TV Services**

Fantastic TV started to provide its licensed free TV service by launching a 24-hour Chinese channel on 14 May 2017, using the hybrid fibre coaxial network operated by HKCTV for transmission of programme signals. Residents of buildings with in-building coaxial cable distribution systems (IBCCDS) installed by HKCTV can readily receive Fantastic TV's free TV service. For buildings with their own

IBCCDS, residents can receive Fantastic TV's service through interconnection of their IBCCDS with HKCTV's network. Currently, Fantastic TV has a coverage of about 93% of the total number of households in Hong Kong.



Pursuant to its free TV licence, Fantastic TV is required to launch a 24-hour English channel by 30 May 2018. In April 2018, Fantastic TV applied to the Authority for an extension of the deadline for launching its English channel by two months to 30 July 2018. Having considered the unique circumstances of this case, the Authority granted a two-month grace period to enable Fantastic TV to roll out its English channel. Fantastic TV launched its English channel on 30 July 2018.

**6.2 Review of the Regulation
of Indirect Advertising**

In 2017/18, the Authority conducted a review of the regulation of indirect advertising in television programme services and advertisements for undertakers and associated services. The objective of the review was to provide a more conducive business environment to licensees on the one hand while protecting the interests of audience on the other.

Upon completion of the review, revisions to the relevant Codes of Practice were made to relax the regulation governing indirect advertising. With effect from 27 July 2018, indirect advertising is permitted in TV programmes except for news programmes, current affairs programmes, children's programmes, educational programmes, religious service and other devotional programmes. Product placement (i.e. the type of indirect advertising where licensees receive payment or other valuable consideration for exposure or use of products/services within a programme) is allowed so long as the exposure or use of products/services within a programme is presented in a natural and unobtrusive manner having regard to the programme context and genre, and that there is no direct encouragement of purchase or use of the products/services. To protect the interests of viewers, licensees are required to clearly inform viewers of the inclusion of indirect advertising before a programme starts. The prohibition on broadcast of advertisements for undertakers and

associated services on TV and radio was also lifted on the same day.

6.3 Application for Free TV Licence

In April 2014, the Authority received an application for a free TV licence from Hong Kong Television Network Limited (HKTV). In January 2016, the Authority submitted to the CE in C its assessment of and recommendations on HKTV's free TV licence application. In September 2016, the CE in C agreed with the Authority's recommendations and decided to give HKTV more time to submit the information required under the BO, and invited the Authority, on receipt of the required information from HKTV, to submit further recommendations to the CE in C on HKTV's application. Following the CE in C's decision, the Authority followed up with HKTV on the required information. In March 2018, HKTV withdrew the application due to commercial considerations.



6.4 Non-domestic and Other Licensable TV Licences

During the period under review, the Authority approved an application for renewal of a non-domestic TV licence from Phoenix Satellite Television Company Limited.

The Authority also accepted the surrender of a non-domestic TV licence by BIG BIG CHANNEL LIMITED and an other licensable TV licence by Fergusson Hong Kong Limited due to the commercial decisions of the licensees.

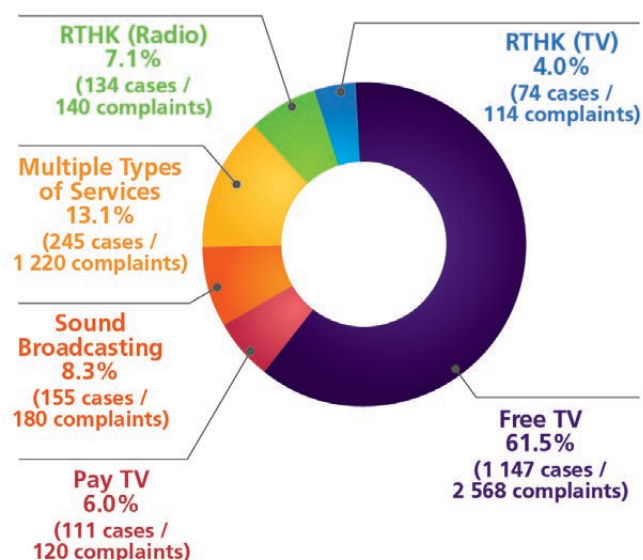


6.5 Processing Complaints relating to Broadcasting Services

Overview of the Complaints Processed

During the period from April 2017 to March 2018, the Authority processed a total of 1 866 cases (4 342 complaints)²⁸ about the materials broadcast by broadcasters, which represented a slight increase of 0.5% in the number of cases but a significant decrease of 75% in the number of complaints processed²⁹, as compared with the numbers recorded during the same period in the previous year (1 856 cases, 17 078 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 2017/18



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.

²⁹ The significant difference between the number of complaints processed in 2017/18 and that in 2016/17 was mainly attributed to a complaint case against the provision of simplified Chinese subtitles only and/or the use of Putonghua in some news programmes broadcast on the former J5 Channel of TVB which gave rise to over 13 000 complaints in 2016/17.

Figure 16: Distribution of All Complaint Cases by Broadcaster Processed in 2017/18

Broadcasters Involved	No. of Complaint Cases	No. of Complaints Involved
TVB	1 010	2 394
HKTVE	95	113
Fantastic TV	36	40
HKCTV	47	47
PCCW Media	56	56
TVBNV	1	1
CRHK	146	171
Metro	9	9
RTHK (TV)	74	114
RTHK (Radio)	134	140
Multiple Broadcasters	258	1 257
Total	1 866	4 342

Among all the complaint cases processed by the Authority, the DG Com handled 1 856 cases (3 588 complaints) under delegated power of 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 10 cases (754 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	8	157	2	1 332	367	1 866
No. of Complaints	430	203	324	2 879	506	4 342

Complaints Dealt with by the Authority

Among the 10 complaint cases dealt with by the Authority, two concerned free TV services (involving 729 complaints, which accounted for 96.7% 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	2	729
Pay TV	2	2
Sound Broadcasting	5	22
RTHK (Radio)	1	1

Regarding the nature of the broadcast materials under complaint and handled by the Authority, six of them were about programmes; three were about advertisements; and the remaining one was related to licence conditions. Eight of them were substantiated. Among these substantiated cases, three cases involved the use of language in programmes; two cases concerned misleading or untruthful contents in advertisements; one case was about indirect advertising; one case involved depiction of sexual violence in programme; and

one case concerned the licensee's deviation from certain requirements under its licence without the Authority's approval.

The Authority issued one serious warning, one warning, four pieces of strong advice and two pieces of advice to the broadcasters concerned. A breakdown of the decisions of the Authority on the complaints dealt with in 2017/18 is shown in **Figure 19**.

Figure 19: Decision of the Authority on Complaint Cases during 2017/18

Decision of the Authority	TVB	HKCTV	PCCW Media	CRHK	Metro	RTHK	Total
No Further Action	1	1	0	0	0	0	2
Advice	0	0	0	2	0	0	2
Strong Advice	1	0	0	1	1	1	4
Warning	0	0	0	1	0	0	1
Serious Warning	0	0	1	0	0	0	1
Financial Penalty	0	0	0	0	0	0	0
Total	2	1	1	4	1	1	10

TELECOMMUNICATIONS

6.6 Re-assignment of Frequency Spectrum in the 900 MHz and 1800 MHz Bands

Among the 552 MHz of spectrum currently assigned for the provision of public mobile telecommunications services, the existing assignments for 49.8 MHz of spectrum in the 900 MHz band and 148.8 MHz of spectrum in the 1800 MHz band will expire during the period between November 2020 and September 2021.

In order to work out the arrangements for spectrum re-assignment and the related spectrum utilisation fee (SUF), the Authority and SCED jointly conducted two rounds of public consultation in 2016 and 2017 respectively. Having carefully considered the views and comments received in the public consultations and the findings of a technical study undertaken by an external consultant, the Authority and SCED jointly promulgated their respective decisions in December 2017 to adopt a hybrid administratively-assigned cum market-based approach for spectrum re-assignment upon expiry of the existing assignments and on the arrangements for the related SUF.



The hybrid approach will best meet the four objectives in spectrum re-assignment, namely, ensuring customer service continuity, efficient spectrum utilisation, promotion of effective competition, and encouragement of investment and promotion of innovative services. In particular, by re-assigning 40% of the spectrum to the incumbent spectrum assignees through the offer of a right of first refusal, it will safeguard the provision of 4G services in the Mass Transit Railway premises and the provision of territory-wide 2G voice services.

6.7 Making Available Additional Spectrum for Public Mobile Service

To meet the huge spectrum demand for the provision of public mobile services and to better prepare Hong Kong for the launch of 5G mobile services in around 2020, the Authority has been actively exploring ways to make available additional spectrum in various frequency bands. In March 2017, the Authority promulgated its work plan for making available additional radio spectrum, inter alia, in the 3.5 GHz band (3.4 – 3.6 GHz), the 26 GHz band (24.25 – 27.50 GHz), and the 28 GHz band (27.50 – 28.35 GHz) to meet the demand of public mobile services including 5G mobile services towards 2020 and beyond. The Authority has been actively following up with the implementation of the work plan since then.

The Authority also strives to identify more spectrum, especially those below the 6 GHz band, to support 5G deployment. In particular, the Authority has been actively exploring the use of the 3.3 – 3.4 GHz band (for indoor use only) and 4.8 – 5.0 GHz band for 5G services in Hong Kong.

The spectrum in the above frequency bands will amount to 4 500 MHz. With the release of such a huge amount of spectrum, Hong Kong will be well placed to launch a new generation of telecommunications services, to capture new market opportunities and to facilitate innovative smart city applications powered by 5G services.

6.8 Making Preparation for the Introduction of 5G Mobile Services

For the 3.5 GHz band, the Authority conducted a public consultation from July to September 2017, proposing that 200 MHz of spectrum in the 3.5 GHz band be made available for the provision of

public mobile services, with 100 MHz of spectrum in the 3.6 – 3.7 GHz band serving as a guard band.

The Authority also commissioned a consultancy study in August 2017 for recommendations on technical mitigating measures and operational precautions for the co-existence of SMATV systems and mobile base stations. The consultancy study was completed in January 2018 and a number of feasible mitigating measures were identified and recommended in the Consultancy Study report, which was published on OFCA's website.

Having duly considered views and comments received in the public consultation, feedback from the industry and the recommendations of the consultancy study, the Authority decided on 28 March 2018 to re-allocate the 3.4 – 3.7 GHz band from fixed satellite service (space-to-Earth) to mobile service for the provision of public mobile services with effect from 1 April 2020, thereby giving an advance notice period of two years to the affected licensees.



To vacate the 26 GHz band currently used for fixed links, notices were served to the existing users in April 2017, notifying them that their existing frequency assignments in the 26 GHz band would be withdrawn in two years' time. This will facilitate the timely release of spectrum in the 26 GHz band and the 28 GHz band (currently unutilised) for 5G services starting from 1 April 2019.

In December 2017, the Authority issued an EOI Invitation to gauge the views of the local industry and other interested parties on using the 4 100 MHz of spectrum in the 26 GHz and 28 GHz bands for the provision of 5G mobile services in Hong Kong. After reviewing the submissions to the EOI Invitation, the Authority launched a joint public consultation with SCED on the proposal to allocate the 26 GHz and 28 GHz bands to mobile service, and the associated arrangements for spectrum assignment and SUF in July 2018. Subject to the views and comments to be received, the Authority and SCED plan to promulgate their respective decisions on the allocation and the associated arrangements for spectrum assignment of the 26 GHz and 28 GHz bands, as well as the related SUF by the end of 2018, such that the spectrum can be assigned for the provision of 5G services in the first quarter of 2019.

Subject to the outcome of further public consultations, the Authority's target is to make a decision on the assignment arrangements for all the available spectrum by the end of 2018.

Apart from making available spectrum, the Authority has been encouraging and facilitating the industry to conduct trials of 5G technologies and applications to better prepare Hong Kong for the launch of 5G mobile services. As of 31 March 2018, the Authority issued a total of seven trial

permits to the equipment vendors and mobile network operators.

6.9 Facilitating Development of Wireless Internet of Things Services

Internet of Things (IoT) is an emerging technology which enables the provision of communications platforms and services for interconnected devices to generate, exchange and consume data with minimal human intervention. The Authority conducted an industry consultation in August 2017 on the proposals to create a new Wireless Internet of Things (WIoT) Licence. The proposal received general support from the industry.



Having carefully considered the views and comments received, the Authority announced on 1 December 2017 the creation of a new licensing regime for the provision of WIoT platforms and services using the shared frequency band of 920 – 925 MHz with a view to underpinning the preparation of Hong Kong for embracing the new era of IoT and the 5G mobile services, as well as various smart city applications in the future. Two WIoT licences were issued as at March 2018.

6.10 Strengthening the Licensing and Regulation of Mobile Virtual Network Operators

To ensure satisfactory provision of service by Mobile Virtual Network Operators (MVNOs) for the protection of consumer welfare, the Authority introduced measures to strengthen the licensing and regulation of MVNOs. In September 2017, after taking into account views and comments received from the industry and relevant stakeholders, the Authority issued a Code of Practice on the Cessation Arrangements for MVNO Services (CoP) to provide practical guidance to the licensees in the event of cessation of MVNO services in order to better protect consumers' interest. The CoP sets out requirements to ensure that MVNOs and their hosting mobile network operators will manage the service cessation arrangements in a coordinated manner and that reasonable advance notice will be given to the affected service subscribers and the general public before any service cessation by an MVNO. This would enable affected service subscribers to make timely arrangements to reduce adverse impacts caused.



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

The Authority conducted a public consultation from October to December 2015 to solicit public views on five proposed measures to ensure better utilisation of the 8-digit numbering plan and to meet the increasing demand for mobile numbers. Taking into account the views and comments received from the industry and interested parties, as well as the need 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 announced on 24 June 2016 its decision to adopt all the five proposed measures for implementation in three phases. Phases 1 and 2 were successfully implemented on 1 January and 1 July 2017 respectively whereby the threshold of utilisation rate for allocation of additional numbers to operators was raised from 70% (prior to 1 January 2017) to 80% (starting from 1 July 2017). In addition, the Authority has commenced allocating mobile numbers with new prefixes '4', '7' and '8' to mobile service providers since the implementation of Phase 2 from July 2017. Starting from February 2018, mobile numbers with the abovementioned new prefixes have been assigned to the end customers. With the implementation of the five 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.

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

Public payphone is a form of basic telephone service which the universal service provider is required under its USO to provide. The cost of providing 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.

Public payphones with an extremely low usage rate (i.e. those with an average revenue not more than \$1 per day) are the subject of the review. In conducting the review, stakeholders including site owners for in-building type public payphones and District Councils for kiosk type public payphones would be engaged throughout the process such that any needs and considerations specific to the locations or districts will be well catered for before a decision to exclude specific public payphones from the USO is made.

For in-building type public payphones, consultations with site owners were completed in February 2018. Altogether, about 35% of the in-building type public payphones would be excluded from the USO. For kiosk type public payphones, consultations with District Councils have started since March 2018. It is expected that the entire review will be completed by end 2019.

6.13 Reduction of Telecommunications Licence Fees

In November 2012, the Authority and SCED issued a joint statement to promulgate their decisions to reduce the customer connection fee level of UCLs from \$800 to \$700 for each 100 customer connections, and to reduce the mobile station fee level of PRS Licences (Paging) and SBO Licences (Class 3) from \$800 to \$700 for each 100 mobile stations. Following completion of the legislative procedure, the new licence fees took effect on 1 March 2013. In February 2013, PCCW-HKT Telephone Limited and HKT (PCCW and HKT) applied for leave to lodge a judicial review (JR) application against the decisions of the Authority and SCED on the licence fees reduction (Decisions). The JR proceedings ultimately reached the Court of Final Appeal (CFA), which handed down its judgment on 27 December 2017, allowing the appeal of PCCW and HKT and declaring that the Decisions were made upon errors of law³⁰. To give effect to the CFA judgment, the Authority has conducted a review jointly with SCED on the licence fee levels in accordance with the revised financial arrangements as advised by the Financial Services and the Treasury Bureau. The Authority will continue to follow up on the matter in the coming year³¹.

30 The CFA declared that SCED and the CA failed in errors of law by wrongly construing -

- (a) the TO as permitting the prescribing of a licence fee which included an element of what in substance was a tax upon the licensee, and
- (b) the Trading Funds Ordinance as permitting the inclusion in budget of OFCATF for notional tax and dividends to be treated as surplus funds to be transferred to the general revenue.

31 On 8 June 2018, the Authority and SCED jointly issued a consultation paper to seek views from the industry and interested parties on the proposed reduction of licence fees for five types of licence issued under the TO and the proposed introduction of a new fee component under the UCL. The Authority and SCED will take into account views received in the public consultation before making their final decisions on the matter.



6.14 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 will take note of and monitor all consumer complaints received. Appropriate actions would be taken if any systemic issues are identified.

During the year under review, the Authority received a total of 1 980 consumer complaints relating to telecommunications services, representing a reduction of 9.3% compared to 2 183 complaints in the previous year. Among them, 1 143 cases (57.7%) were related to mobile services, 560 cases (28.3%) were related to Internet services, 260 cases (13.1%) were related to fixed-line services, eight cases (0.4%) were related to external telecommunications and one case (0.1%) was related to other services. On the nature of complaint, the Authority received the largest number of complaints relating to customer service quality (496 cases or 25.1%), while complaints about billing disputes (332 cases or 16.8%) and service quality (323 cases or 16.3%) 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 2017/18

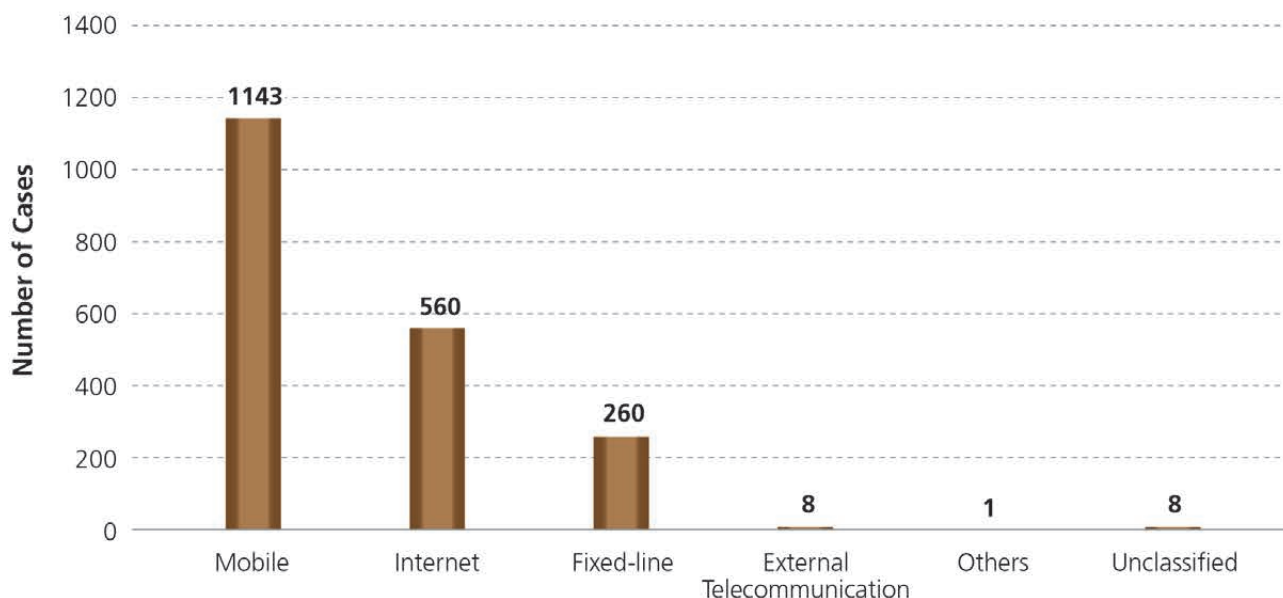
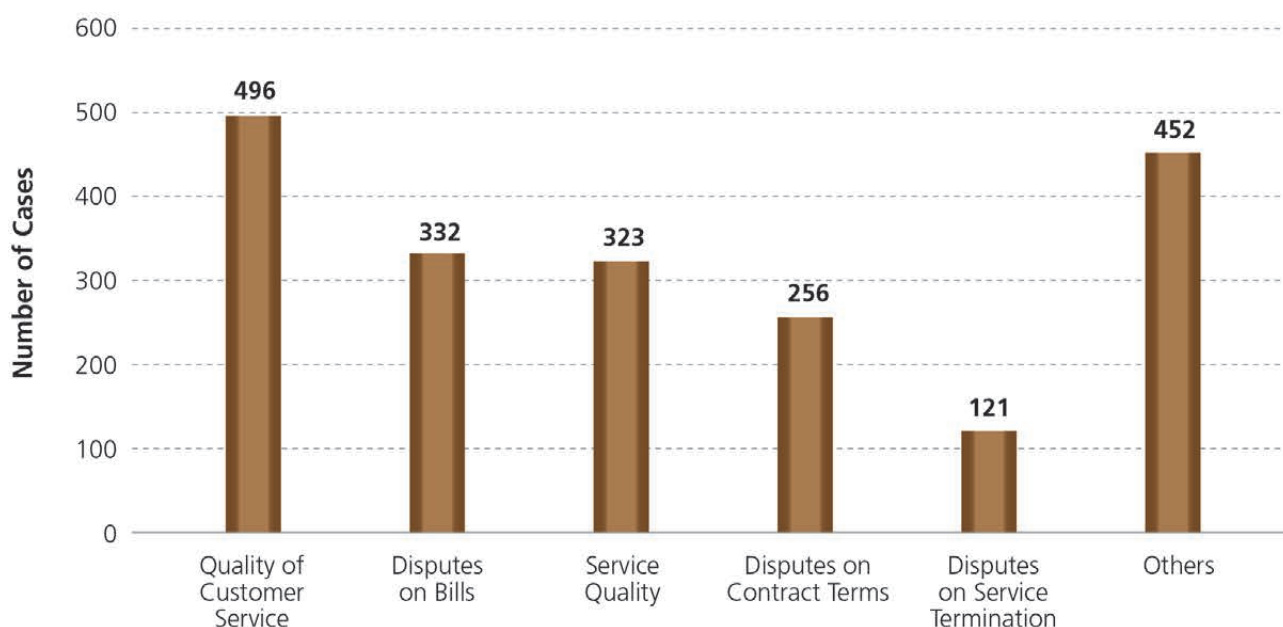


Figure 21: Distribution of Complaint Cases by Nature of Complaints Received by the Authority in 2017/18



Among the 1 980 complaint cases received, 1 976 (99.8%) were outside the Authority's jurisdiction. For the remaining four cases (0.2%), they might involve possible breach of the TO or licence conditions. These cases were related to arrangement of cable removal after service

termination, difficulties in accessing buildings to provide services, mobile number porting and unstable service quality. Regulatory actions will be taken against the telecommunications operators concerned if the complaints are found to be substantiated after investigations.

Breakdown of complaint cases that might involve possible 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 2017/18

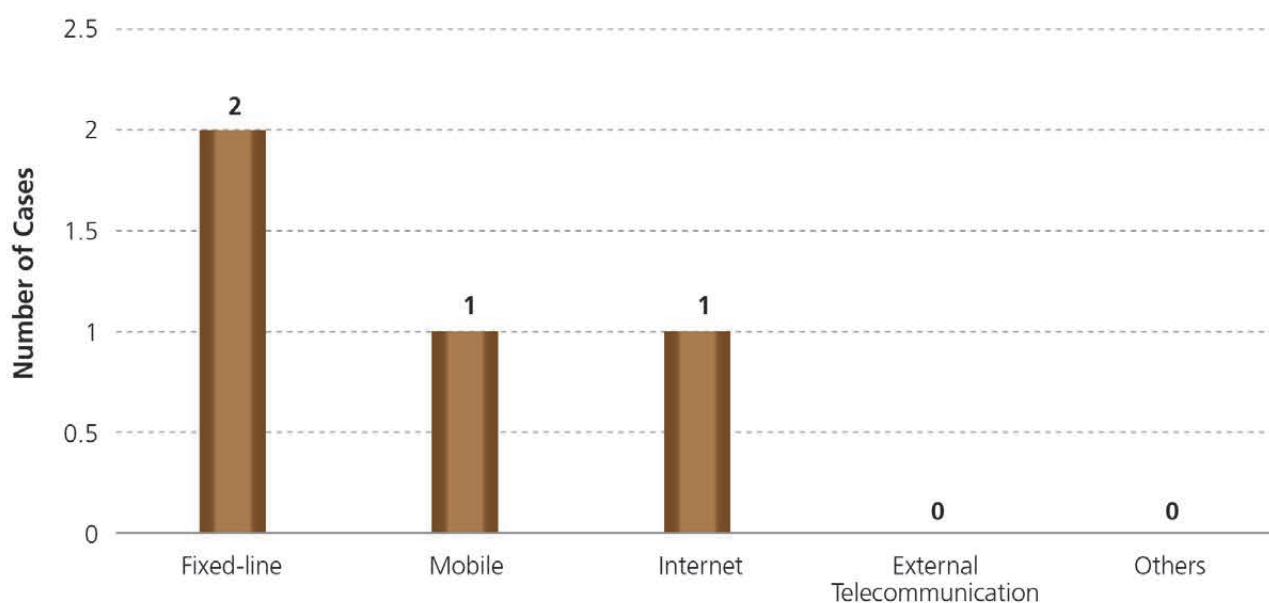
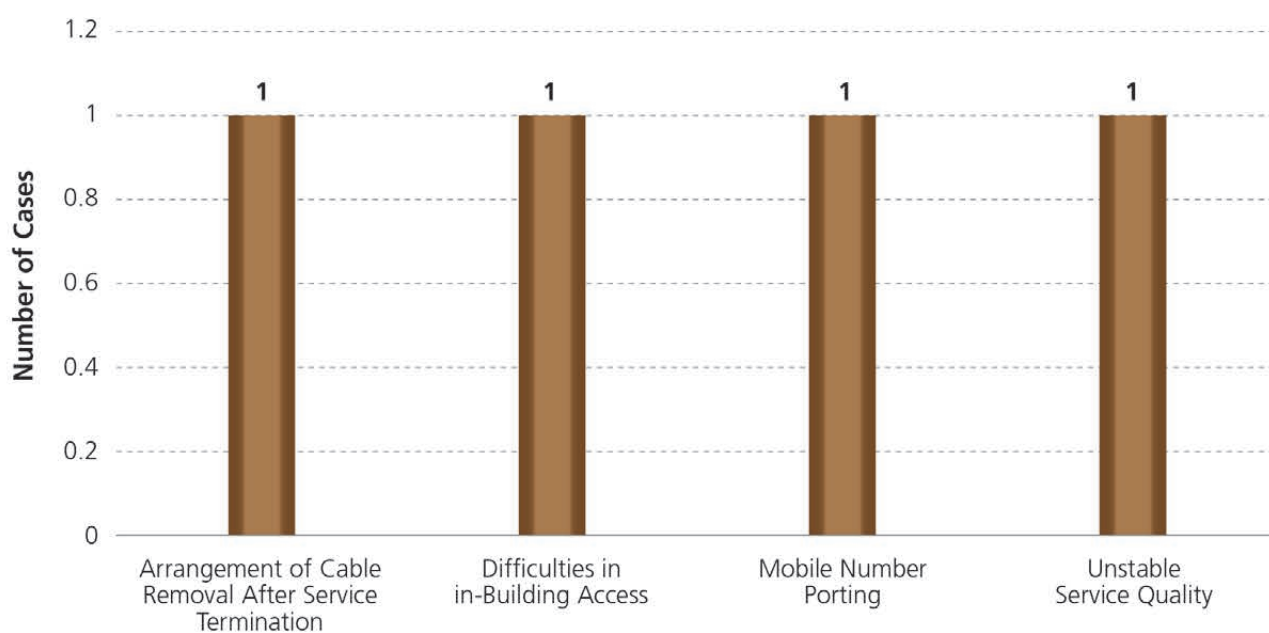


Figure 23: Distribution of Complaint Cases by Nature of Complaints Received by the Authority in 2017/18



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 the 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, the 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 2017/18

Types of Consumer Complaint	No. of Complaint Cases
Contractual disputes	377
Mobile bill shock	146
Fair Usage Policy	9
Chargeable mobile content services	2

6.15 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, screening the CCSS applications against the acceptance criteria, and monitoring the performance and the governance of the scheme.

Between 1 April 2017 and 31 March 2018, there were 82 eligible applications, 42 cases of which were satisfactorily settled before referral to the CCSS Centre, 36 cases were satisfactorily settled upon referral to the CCSS Centre, and four cases were not settled.

6.16 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 2017 to 31 March 2018, the Authority handled a total of 429 complaint cases under the TDO. Among these cases, 353 were closed for there being insufficient evidence to suspect/establish a contravention or falling outside the scope of the TDO, 26 cases were closed after advisory letters were issued 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 50 cases were being handled at various stages.

6.17 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 would 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 would discuss and agree on how best to take forward the matter on a case-by-case basis.

From 1 April 2017 to 31 March 2018, a total of 43 complaints and/or enquiries were received under the CO, with 41 cases closed without the need for further actions and two cases being processed. During the year, the Authority also reviewed two transactions under the merger rule of the CO and considered that no follow-up action was required in respect of the two transactions.

6.18 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 has 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 2018, more than 2.8 million numbers had been registered under these DNC registers.

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

MAJOR REGULATORY ACTIONS

6.19 Sanctions against Broadcasting Licensees

There was no major sanction against broadcasting licensees during the reporting period.

6.20 Sanctions against Telecommunications Licensees

Disruptions of the Telecommunications Services of CMHK

On 4 January and 26 February 2017, there were two incidents of network outage of CMHK, causing disruptions to its telecommunications services including mobile voice, data and multimedia messaging services. Having considered all the facts and circumstances of the case including OFCA's assessment and CMHK's representations, the Authority concluded that, in both incidents, CMHK had failed to comply with General Condition 5.1 of its UCL (Licence No. 002), which required it to operate, maintain and provide a good, efficient and continuous service in a manner satisfactory to the Authority. The Authority decided to impose a financial penalty of \$150,000 on CMHK.

Illegal Bypass of Local Access Charge by South China Telecommunications (HK) Limited

The Authority completed the investigation into a case regarding illegal bypass of local access charge. South China Telecommunications (HK) Limited, a licensee for External Telecommunications Services, was imposed a financial penalty of \$65,000 for having committed a breach of Special Conditions 7.1 and 8.1 of its licence.

6.21 Sanctions against Senders of CEMs

From April 2017 to March 2018, the Authority received 677 reports on suspected contraventions of the UEMO, representing a decrease of about 16% as compared to the 803 reports received in the previous year. In dealing with these reports, OFCA 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, 198 advisory letters and 41 warning letters were issued. In the event of repeated contraventions by a particular sender, the Authority would issue an enforcement notice pursuant to the UEMO directing the sender concerned to take steps to remedy the offences. Any person who fails to comply with the enforcement notice may be liable to a fine of up to \$100,000 on the first conviction. In 2017/18, no enforcement notice was issued.

CHAPTER 7: 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

GLOBECAST HONG KONG LIMITED

Auspicious Colour Limited

Phoenix Satellite Television Company Limited

Times International Media Group 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

ANNEX 1

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	94 (4)	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	15 (12)	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	28 (19)	General entertainment, infotainment & music	Asia-Pacific region	AsiaSat 4 AsiaSat 5 AsiaSat 7

	Licensee	Date of Launch of Service	No. of Channels (no. receivable in HK)	Nature of Channels	Target Markets	Satellite
8.	Phoenix Satellite Television Company Limited	5.2006	4 (3)	General entertainment, news & movie	Asia-Pacific region	AsiaSat 7
9.	Times International Media Group Limited	6.2014	1 (1)	News, travel & infotainment	Asia-Pacific region	Chinasat 10
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

ANNEX 2

Types and Numbers of
Telecommunications Licences

As at 31 Mar 2018

Type of Licences	
Academic Institution Self-provided Telecommunications Installation	2
Aeronautical VHF Fixed Station	34
Aircraft Station	343
Amateur Station	2 634
Broadcast Radio Relay Station & Broadcast Relay Station	16
Experimental Station	89
Fixed Carrier	5
Hotel Television (Transmission)	160
Industrial, Scientific & Medical Electronic Machine	1 319
Maritime Radio (Local Vessel)	1 362
Mobile Carrier	1
Mobile Carrier (Restricted)	0
Mobile Radio System Fixed Station	16
Mobile Radio System Mobile Station	1 973
Private Mobile Radio System	2 100
Private Radio Paging System	8
Public Radiocommunications Service	7

Type of Licences	
Radio Dealers (Unrestricted)	3 880
Radiocommunications School	7
Radiodetermination and Conveyance of Commands, Status and Data	206
Satellite Master Antenna Television	69
Self-Provided External Telecommunications System	8
Services-Based Operator of Class 1 Service, Class 2 Service and Services Other Than Class 1, Class 2 or Class 3 Service ^{Note A}	19
Services-Based Operator of Class 3 Service	503
Ship Station	2 445
Space Station Carrier	11
Taxi Radiocommunications Service	24
Unified Carrier - Mobile Services ^{Note B}	11
Unified Carrier - Local / External Fixed Services ^{Note B and C}	49
Wide Band Link & Relay Station	56
Wireless Internet of Things	2
Total	17 359

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.



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COMMUNICATIONS
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