

在2018／19年度，我們在多條頻帶提供無線電頻譜，並加強便利措施，支援發展5G服務。我們亦協助規劃終止模擬電視服務，以實現全面數碼免費電視服務，並獲取數碼紅利，使社會大眾得益。

In 2018/19, we made available radio spectrum in various frequency bands and strengthened facilitating measures to support the development of 5G services. We also assisted in planning the switching off of analogue television services with a view to realising full digitisation of free television services and reaping the digital dividend for the society.



王天予

Agnes WONG

通訊事務總監
Director-General of Communications

我欣然呈上通訊事務管理局辦公室（通訊辦）2018／19年年報。

當中更有超逾77%的用戶享用光纖到樓／到戶服務，足見香港電訊市場不但成熟，而且高度發展。

市場概況

流動服務用戶數量穩定增長，加上智能電話和通訊裝置極為普及，推動流動數據服務市場持續蓬勃發展。流動服務用戶數目在2018／19年度增至超過2 200萬個，按人口計算的滲透率為276%¹，位居世界前列。就流動數據用量而言，香港是全球最活躍和暢旺的市場之一：流動數據總用量增長至每月54 860太字節，相當於人均流動數據用量約為每月7.3 吉字節。

香港擁有多個全球最先進的光纖網絡，本地消費者因而有各類價格相宜的高速寬頻服務可供選擇。截至2019年3月，住戶寬頻滲透率超逾93%，用戶數目接近271萬個，

2018／19年度的主要工作回顧

通訊辦的工作在2018／19年度取得長足的進展，讓我於下文回顧年內取得的部分主要工作成果。

電訊服務

我們在2018／19年度的工作重點之一，是繼續促進於2020年推出第五代（5G）流動服務。我們協助通訊事務管理局（通訊局）在多條頻帶提供頻譜用作開展5G服務，為香港通訊業和電訊服務用戶迎接令人振奮的新章，奠下穩固的基礎。

¹ 按人口計算的滲透率並不包括機器類連接。

It is my pleasure to present the 2018/19 annual report of the Office of the Communications Authority (OFCA).

Market Overview

Driven by steady increases in mobile service subscriptions and high popularity of smartphones and communications devices, the mobile data service market continues to thrive. The number of mobile service subscriptions increased to over 22 million in 2018/19, and the subscriber penetration rate was 276%¹, one of the highest in the world. In terms of mobile data volume, Hong Kong is one of the world's most dynamic and exciting markets: the total volume of mobile data usage surged to 54 860 Terabytes per month, representing an average monthly mobile data consumption of about 7.3 Gigabytes per capita.

Hong Kong is home to some of the most advanced optical-fibre networks in the world, giving local consumers a choice of affordable high-speed broadband services. The maturity and sophistication of this market is reflected in both the household broadband penetration rate, which as of March 2019 exceeded 93% with almost 2.71 million subscriptions, and that over 77% of the subscriptions are served by optical fibre to the buildings/premises.

Highlights of Our Work in 2018/19

Significant progress has been made by OFCA in 2018/19. Some of our major accomplishments in the year are highlighted below.

Telecommunications Services

Preparation for the rollout of the fifth generation (5G) mobile services in 2020 continued to be a major focus of our work in 2018/19. We assisted the Communications Authority (CA) in making available spectrum in various frequency bands for the rollout of 5G services, laying the foundation for an exciting new chapter for Hong Kong's communications industry and telecommunications service users.

Pursuant to decisions made respectively by the CA and the Secretary for Commerce and Economic Development (SCED), a total of about 4 500 MHz of spectrum in various frequency bands has been designated for the development of 5G services. In December 2018, OFCA invited applications for the administrative assignment of 3 700 MHz of spectrum in the 26 GHz and 28 GHz bands, taking into account the ample supply of spectrum in these bands. Three incumbent mobile network operators were each assigned 400 MHz of spectrum to enable them to commence network deployment of large scale 5G services starting from April 2019. As there are likely to be competing demands for spectrum in the 3.3 GHz, 3.5 GHz and 4.9 GHz bands, the CA decided that such spectrum should be assigned by way of auctions. OFCA is now working towards conducting these auctions in the second half of 2019.

To facilitate timely and cost-effective rollout of 5G networks, OFCA has worked closely with other government departments on a pilot scheme to streamline the application and approval arrangements for installation of radio base stations in government premises. Since the launch of the pilot scheme in March 2019, over 1 000 government venues have been made available for application by mobile network operators.

During the year, we completed another major task by assisting the CA to re-assign 200 MHz of spectrum in the 900 MHz and 1800 MHz bands. This was accomplished through the adoption of a hybrid administratively-assigned cum market-based approach. The existing assignments of spectrum in the 900 MHz and 1800 MHz bands to the four incumbent spectrum assignees will expire in January and September 2021. While 80 MHz of the spectrum was re-assigned administratively to incumbents through the rights of first refusal, the remaining 120 MHz of the spectrum was re-assigned through an auction for use in the new assignment term.

An important aspect of our work is to ensure the smooth handover of spectrum when re-assignment occurs. We have set up a working group with all four incumbent spectrum assignees to coordinate the required technical work.

¹ Calculation of subscriber penetration rate does not include machine type connections.

根據通訊局與商務及經濟發展局局長（商經局局長）分別作出的決定，多條頻帶內約4 500兆赫的頻譜已獲指定用作發展5G服務。鑑於26吉赫及28吉赫頻帶的頻譜供應充足，該兩條頻帶內合共3 700兆赫的頻譜會以行政方式指配。通訊辦於2018年12月邀請有興趣人士申請，其中三家現有流動網絡營辦商各獲指配400兆赫的頻譜，並可於2019年4月開始設置網絡，以提供大規模5G服務。至於3.3吉赫、3.5吉赫及4.9吉赫頻帶，由於有關頻譜很可能有競爭性需求，通訊局決定以拍賣方式指配。通訊辦正密鑼緊鼓，籌備在2019年下半年舉行相關拍賣。

為促進5G網絡能夠適時地以具成本效益的方式鋪設，通訊辦與其他政府部門緊密合作，推行先導計劃，簡化在政府場所裝設無線電基站的申請和審批安排。自先導計劃於2019年3月推出至今，已有超過1 000個政府場地可供流動網絡營辦商申請。

我們在年內完成的另一項主要工作，是協助通訊局重新指配900兆赫及1800兆赫頻帶內合共200兆赫的頻譜。是次重新指配安排是採用行政指配兼市場主導的混合模式。指配予四名現有頻譜受配者的900兆赫及1800兆赫頻帶頻譜的現有指配期將分別於2021年1月和9月屆滿，當中80兆赫的頻譜已透過優先權以行政方式重新指配予現有頻譜受配者，餘下的120兆赫頻譜亦已透過拍賣方式重新指配，以供在新的指配期使用。

我們必須確保頻譜在重新指配期間順利移交。為此，我們成立了包括全部四名現有頻譜受配者的工作小組，以協調有關的技術事宜。

此外，通訊辦亦在2018／19年度協助通訊局完成要約提供電訊服務類別牌照（類別牌照）的檢討。該類別牌照授權任何符合若干準則或條件的人士，在沒有設置、操作或維持任何電訊設備的情況下向公眾要約提供電訊服務。為確保該類別牌照的牌照制度與時並進，以及充分保障消費者，我們在年內協助通訊局進行公眾諮詢。經考慮所收集的意見，通訊局將修訂該類別牌照的牌照條件，包括加入



服務訂戶數量達10 000或以上的持牌人必須登記的規定。經修訂的類別牌照將於2019年10月26日生效。

年內，我們亦協助通訊局完成香港公眾收費電話機服務的檢討。香港大部分公眾收費電話機均由全面服務供應商按照《電訊條例》訂明的全面服務責任提供。由於香港流動服務用戶的比率極高，公眾收費電話機服務的需求日益下降，通訊辦於2017年6月協助通訊局進行檢討，以決定在全面服務責任下應予以保留的公眾收費電話機的合理數目。在諮詢所有相關持份者後，通訊辦決定從全面服務責任中剔除約35%的室內公眾收費電話機及約50%的電話亭公眾收費電話機。

此外，我們協助商務及經濟發展局（商經局）檢討《電訊條例》下的電訊規管架構。是次檢討旨在確保香港的電訊規管架構為5G服務準備就緒，並配合未來的科技演進。我們會繼續協助通訊局，考慮諮詢期間收到的意見，並就修訂《電訊條例》的建議向政府提供意見。

方便每位香港市民更容易獲取電訊服務，是我們工作的重要一環。因應行政長官在2017年《施政報告》中宣布政府將會向電訊商提供資助，推動他們擴展其光纖網絡至位於偏遠地區的鄉村，我們正進行招標工作，以選出營辦商參與資助計劃。

通訊辦的工作並非局限於促進市場競爭和投資，消費者教育工作亦同樣重要。為此，我們在過去一年繼續推行一系

Separately, OFCA provided assistance to the CA to complete a review on the Class Licence for Offer of Telecommunications Services (CLOTS) in 2018/19. The CLOTS authorises any person meeting certain criteria or conditions to offer any telecommunications services to the general public without the establishment, operation or maintenance of any means of telecommunications. To ensure that the CLOTS licensing regime is up-to-date and that consumers are well protected, we assisted the CA in conducting a public consultation in the year. Taking into consideration the views collected, the licence conditions in CLOTS will be amended, including the introduction of a registration requirement for licensees having a customer base of 10 000 subscriptions or more. The revised CLOTS will take effect from 26 October 2019.

During the year, we also assisted the CA in completing a review of Hong Kong's public payphone service. In Hong Kong, the majority of public payphones are provided by a universal service provider under its Universal Service Obligation (USO) as prescribed in the Telecommunications Ordinance (TO). Hong Kong's exceptionally high rate of mobile service users resulted in a decline in demand for public payphone services. In June 2017, OFCA assisted the CA in conducting a review to determine the reasonable number of public payphones that should remain under the USO. After consulting all relevant stakeholders, about 35% of in-building-type public payphones and about 50% of kiosk-type public payphones were decided to be excluded from the USO.

In addition, we provided support to the Commerce and Economic Development Bureau (CEDB) in the review of the



telecommunications regulatory framework under the TO. The review aims to ensure the telecommunications regulatory framework in Hong Kong will be 5G-ready and conducive to future technology evolutions. We will continue to support the CA in providing advice to the Government in relation to any future legislative amendments to the TO having regard to the submissions received in the consultation.

Improving access to telecommunications for everyone in Hong Kong remains a key aspect of our work. Following the Chief Executive's announcement in the 2017 Policy Address that the Government would provide subsidies to telecommunications operators to extend their fibre-based networks to villages in remote areas, we are conducting a tender exercise for the selection of operators to participate in the subsidy scheme.

OFCA's work involves much more than facilitating market competition and investment. Consumer education is equally important. To this end, we continued to implement a series of publicity programmes and activities, such as a new series of TV & Radio Announcements in the Public Interest, roving exhibitions, public seminars and consumer education programmes tailor-made for schools, in the past year to enhance public awareness of smart use of communications services and assist consumers in making informed service choices.

Broadcasting Services

One of the major tasks of OFCA in 2018/19 was to support CEDB in its review of the television and sound broadcasting regulatory regimes, with the aim of modernising the regulatory framework in response to market needs and technological developments. After the review, CEDB proposed to relax certain restrictions and introduced legislative amendments to give effect to such proposals. In addition to the legislative amendments pursued by CEDB, we also assisted the CA in formulating and implementing measures to streamline certain administrative requirements.

The switching off of analogue television services (ASO) will be a major milestone for Hong Kong's broadcasting industry. In 2018/19, OFCA continued to provide advisory services to CEDB

列宣傳節目和活動，例如製作新一輯電視宣傳短片及電台宣傳聲帶、舉辦巡迴展覽、公眾講座及專為學校而設的消費者教育節目，務求提高公眾對精明使用通訊服務的認識，協助消費者明智地選擇服務。

廣播服務



通訊辦在2018／19年度的其中一項重要工作，是協助商經局檢討電視及聲音廣播規管制度，以配合市場需要及科技發展，使規管架構與時並進。檢討完成後，商經局建議放寬若干限制，並提出法例修訂，以落實該等建議。除了由商經局提出的法例修訂外，我們亦協助通訊局制訂和實施措施，以簡化部分行政程序。

終止模擬電視服務（終止模擬廣播）將是香港廣播業的一個重要里程碑。在2018／19年度，通訊辦繼續就終止模擬廣播的規劃及其後釋放頻譜作流動電訊服務用途的事宜向商經局提供意見。我們亦致力與內地當局聯絡，協調香港終止模擬廣播的目標日期，以及於終止模擬廣播後使用470－806兆赫頻帶的頻率協調安排。2019年2月11日，政府公布行政長官會同行政會議已通過落實於2020年11月30日（23時59分）終止模擬廣播的決定。終止模擬廣播後，將可騰空614－806兆赫頻帶內合共160兆赫的頻譜，用作提供流動電訊服務。

未來的主要挑戰

我們快將邁進令人雀躍的5G時代。這個新時代的來臨勢必加速通訊業的發展和推動業界創新。在未來一年，通訊辦將繼續協助通訊局指配在3.3吉赫、3.5吉赫、4.9吉赫及26／28吉赫頻帶內的頻譜，並繼續在多條頻帶內努力物色更多頻譜，用作提供5G服務。通訊辦亦會推行相關的便利措施，促使業界有效地在全港鋪設5G網絡和提供服務。我們會致力協助通訊局履行在廣播服務方面的規管職能——即堅持不懈，力求在為廣播持牌機構提供更佳營商環境與保障觀眾利益之間取得平衡。為確保我們在履行這項職責時臻完善，我們會密切留意全球科技和業界最佳做法的最新發展，並全力協助通訊局更新規管及發牌制度，務求確保該等制度可繼續鼓勵更多商業投資。對於全港市民，我們將一如既往，竭力滿足他們對優質和尖端通訊服務的需求及期望。

最後，我衷心感謝通訊局主席及全體成員在年內的指導，以及通訊辦各諮詢委員會委員和所有其他持份者所提供的寶貴意見和精闢的建議。我亦向通訊辦各位同事致謝，他們在我擔任通訊事務總監期間竭盡所能，提供全面及專業的支援。全賴他們專業實幹，盡忠職守，通訊辦方能實現去年定下的所有目標，並努力制訂未來的新目標。我們決心保持香港作為亞太區通訊樞紐的領導地位。

這是我擔任通訊事務總監的最後一份報告。藉此機會，我祝願我的繼任人梁仲賢先生工作順遂。我深信通訊辦在梁總監的領導下，將勇於迎接未來的種種挑戰。通訊辦將致力與各持份者攜手努力，再創高峰，並繼續推動香港成為全球通訊服務的先驅。



on the planning for the ASO and the subsequent release of spectrum for mobile telecommunications services. Our efforts also involved liaising with Mainland authorities on the ASO target date and post-ASO frequency coordination for use of the 470 – 806 MHz band. On 11 February 2019, the Government announced the decision as approved by the Chief Executive in Council that the ASO would proceed on 30 November 2020 (23:59 hours). A total of 160 MHz of spectrum in the 614 – 806 MHz band would be made available for the provision of mobile telecommunications services subsequent to the ASO.

Major Challenges Ahead

We are fast entering the exciting 5G era, which will undoubtedly accelerate growth and drive innovation in the communications industry. In the year ahead, OFCA will continue to assist the CA in assigning spectrum in the 3.3 GHz, 3.5 GHz, 4.9 GHz and 26/28 GHz bands, and strive to identify more spectrum in various frequency bands for the provision of 5G services. OFCA will also implement relevant facilitating measures to promote the effective rollout of 5G networks and services across Hong

Kong. We are committed to assisting the CA in performing its regulatory functions on the broadcasting front – working hard as always to strike a balance between providing a more conducive business environment to broadcasting licensees while protecting the interests of viewers. To ensure that we fulfil this role to the best of our ability, we will remain vigilant to the latest developments in global technology and industry best practices, and provide our full support to the CA in updating the regulatory and licensing regimes to ensure that they always encourage further business investment. For the community, we will uphold our commitment to meeting their needs and aspirations for quality and state-of-the-art communications services.

In closing, I wish to extend my heartiest thanks to the Chairman and all members of the CA for their guidance, as well as members of the advisory committees of OFCA and all other stakeholders for their invaluable advice and thoughtful inputs throughout the year. I would also like to thank all my colleagues in OFCA for their full and professional support throughout my tenure as the Director-General of Communications. Their expertise and dedication have enabled OFCA to fully accomplish its goals set for the last year, while tirelessly drawing up new targets for future years. We are all determined to uphold Hong Kong's position as the leading communications hub in the Asia-Pacific region.

This is my last report as the Director-General of Communications. I would like to take this opportunity to wish my successor, Mr Chaucer Leung, every success. I am confident that under his leadership, OFCA will rise to the challenges ahead. Working hand in hand with all stakeholders, OFCA is poised to scale new heights and will continue to empower Hong Kong as the frontrunner in communications services on the world stage.