



民航處
CIVIL AVIATION
DEPARTMENT

2016-2017 年報
Annual Report



致力保障
航空安全

Maintaining Safety
in Aviation

我們的理想

致力於安全、有效率及可持續發展的航空運輸系統

我們的使命

- 奠定香港作為國際及區域頂尖航空中心的地位
- 維持有效法律制度，以實施根據適用國際民航公約制訂的相關條文
- 借助先進航空導航系統科技，推動航空業發展
- 確保建立、達到和維持航空導航服務高水平的安全標準
- 在香港飛行情報區內維持既安全快捷，又秩序井然的航空交通
- 確保在香港飛行情報區內提供精準及快捷的航空資訊服務和適時及高效的警報服務
- 確保香港搜救區內飛機出現緊急情況和發生意外時，適當協調搜索和救援行動
- 制訂和貫徹執行機場安全及航空保安標準
- 確保香港註冊的飛機和以香港為基地的航空公司符合既定的適航及運作標準
- 確保香港認可的飛機維修機構符合國際標準
- 確保香港註冊的空勤人員和飛機維修工程師符合國際標準
- 制定策略並積極採取措施，確保所有航機運作符合相關可承受的安全水平，盡量減低航空安全風險
- 監察航空公司有否遵守雙邊民用航空運輸協定
- 制定有效措施以減少飛機噪音對社區的影響
- 透過協調及綜合系統法，推廣及管理航空安全
- 以公正持平方式進行意外調查，確定肇事原因及實況，以保障人命安全和防止同類意外再次發生

我們的信念

- 安全可靠
- 快捷高效
- 嚴守標準
- 專業誠信
- 團隊精神
- 持續發展

Our Vision

Committed to a Safe, Efficient and Sustainable Air Transport System

Our Mission

- Positioning Hong Kong as a leading centre of international and regional aviation
- Maintaining an effective legal system for the implementation of relevant provisions under applicable civil aviation related international conventions
- Facilitating the growth of aviation through the application of leading edge technology in Air Navigation Systems
- Ensuring that a high standard of safety in the provision of air navigation services is established, achieved and maintained
- Maintaining a safe, orderly and expeditious flow of air traffic within the Hong Kong Flight Information Region
- Ensuring that an accurate and efficient aeronautical information service and a timely and effective alerting service within the Hong Kong Flight Information Region are provided
- Ensuring proper coordination of search and rescue operation in the event of aircraft emergencies and accidents within the Hong Kong Search and Rescue Region
- Setting and enforcing aerodrome safety and aviation security standards
- Ensuring compliance with established airworthiness and flight operations standards by Hong Kong registered aircraft and locally based airlines
- Ensuring compliance with international standards by Hong Kong approved aircraft maintenance organisations
- Ensuring compliance with international standards by Hong Kong licensed flight crew and aircraft maintenance engineers
- Developing strategies and implementing proactive measures to minimise safety risks to aviation by ensuring that all operations are conducted in conformity with the respective acceptable levels of safety
- Monitoring compliance by airlines with bi-lateral Air Services Agreements
- Developing workable measures to minimise the impact of aircraft noise on local communities
- Promoting and managing aviation safety through a coordinated and integrated systems approach
- Conducting fair and impartial accident investigations to determine the circumstances and causes of accidents with a view to the preservation of life and avoidance of accidents in the future

Our Values

- Safety and security
- Efficiency and effectiveness
- Compliance with standards
- Professionalism and integrity
- Teamwork
- Sustainable development

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處長報告

Director-General's Review



李天柱太平紳士
民航處處長

Mr Simon Li Tin-chui, JP
Director-General of Civil Aviation

二〇一六至一七年度對民航處而言是意義重大的一年，不僅是民航處成立七十周年，亦見證民航處邁進多個新里程，包括航空交通管制系統(空管系統)順利完成更換，以及原於機場禁區航空交通管制大樓內工作的同事，亦搬進民航處總部新空管中心辦公，有效提升運作效率。此外，擴建香港國際機場成為三跑道系統的工程，亦於年內正式啓動。各項發展計劃均全速發展，以提升香港作為國際航空樞紐的競爭力。

The year 2016-17 was of momentous importance to the Civil Aviation Department (CAD). It marked not only the 70th anniversary of CAD, but also the new milestones in the history of CAD, such as the successful replacement of the Air Traffic Control (ATC) System. Colleague who used to work at the ATC Complex in the airport restricted area moved to new ATC Centre in CAD Headquarters, which enhanced the operation efficiency. Besides, construction for expanding the Hong Kong International Airport (HKIA) into a Three-runway System (3RS) also commenced in the year. All development projects are making good progress to sharpen Hong Kong's competitive edge as an international aviation hub.

回顧過去一年的工作，感受最深的是推出新空管系統的最後一個部分——航空交通管理系統(航管系統)。該系統自二〇一六年十一月十四日全面投入服務以來，不論節日假期的航空交通流量高峰期或惡劣天氣，均表現良好，處理的航機數量更屢創新高，刷出多項新紀錄。本地和海外航空公司的管理層和機師，以至國際民用航空組織(國際民航組織)的代表在新系統投入運作後，對香港的空管服務給予高度評價，並讚揚香港不論使用新舊航管系統，一直都提供安全、快捷和高質素的航空交通管理服務。

這些紀錄和讚賞實在得來不易。眾所周知，航管系統是一套相當大型而複雜的綜合性電腦系統，正如外國專家所指，即使盡了最大努力，新系統全面運行初期仍有機會出現一些特殊的情況。我十分慶幸自己有一班專業而盡責的同事，上下一心，為新航管系統的全面運作做好一切所需準備，包括對新航管系統進行了一系列的嚴格驗收測試，確保系統的運作符合合約條款和安全管理規定；制訂全面的培訓計劃，為所有空管人員和相關員工提供有系統的訓練環節，確保空管人員在通過嚴格的客觀考核後，才開始操作新航管系統。我為民航處全體人員能夠發揮專業幹練和團隊精神，順利完成這項必須慎密籌劃和同心協力的艱巨工作，感到自豪。

In reviewing our work in the year, what impressed me most was the launch of the remaining part of the ATC System, i.e. the Air Traffic Management System (ATMS). The system has performed well during the peak air traffic flow of festive periods and under severe weather conditions since its full commissioning on 14 November 2016. The flight movements handled by the new ATMS has scaled new heights. Local and overseas airlines' management and pilots as well as representatives of the International Civil Aviation Organization (ICAO) commended CAD highly for the safe, efficient and quality air traffic management services, irrespective of whether the new or old ATMS was in use.

These records and achievements were not easy to come by. As everyone knows, the ATMS is a large-scale, complicated and comprehensive computer system. According to the overseas experts, even with all reasonable efforts and endeavours, there could still be possibilities of setbacks during the introduction of a new system. Despite all the challenges, with high level of professionalism, dedication and concerted efforts, staff of CAD made all the necessary arrangements for the full implementation of the new ATMS, which included conducting a series of stringent acceptance tests on the new ATMS to ensure that the system operation was in compliance with the contract conditions and safety management requirements; and formulating a comprehensive training plan to provide a range of systematic training modules for all air traffic control officers (ATCOs) and relevant staff so as to ensure that all the ATCOs had undergone rigorous objective assessment before they were allowed to operate the new ATMS. I am proud of the professionalism and esprit de corps manifested by all members of CAD in accomplishing this arduous task which required careful and prudent planning as well as intensive cooperation.

處長報告

Director-General's Review

成功推行新系統，亦有賴航管系統專家小組的貢獻。鑑於新航管系統複雜，民航處於二零一六年十二月成立了專家小組，就新航管系統投入運作後所遇到的問題和所須進行的優化工作，向民航處提供客觀和專業的意見，並就新航管系統的長遠優化工作，與民航處分享國際經驗和最佳做法。

專家小組在二〇一七年四月發表中期評估報告，確認新航管系統自全面啓用以來，截至二〇一七年二月底，一直按照國際安全標準為進出香港飛行情報區的航班提供安全、可靠和總體暢順的航空交通管理服務。報告指出，新航管系統在磨合期確曾出現一些不暢順的情況，但民航處人員憑藉專業訓練，按既定程序有效妥善地處理有關情況，沒有影響航空安全。專責小組認為民航處已有一套有效的既定機制，處理新系統投入運作後出現的不同情況，並符合國際最佳做法和國際民航組織的安全管理系統程序。

除了航管系統處理的航機數量(包括在香港國際機場升降的航班和飛越香港飛行情報區的航班)迭創新高外，香港國際機場的客運量亦首度突破7 000萬人次；貨運量增加6.7%至460萬公噸，連續第七年成為全球最繁忙的貨運機場；香港民用航空器登記冊登記的民用飛機亦增加至接近330架，其中包括最新的A350型及A320(Neo)型號飛機。這些數字，一方面代表了民航處人員和航空業界的努力，另一方面亦標誌着全球航空業的急速發展。

面對全球航空業的發展和競爭，香港必須加強與珠江三角洲(珠三角)地區機場的協同效應，達到互利共贏。就此，內地、香港和澳門民航當局年內於香港簽署了強化合作交流機制協議，透過訂立定期會面機制，加強三方在珠三角地區空中交通管理規劃與實施的合作交流，讓香港國際機場三跑道系統能夠發揮最大效用，以期達至每小時處理102班航班的長遠目標。

The success was also attributed to the ATMS Expert Panel (Expert Panel), which was set up in December 2016 in view of the complexity of the new ATMS. The Expert Panel members provided objective and expert advice to CAD on teething issues arising from the commissioning of the new ATMS and the necessary optimisation work; and shared with CAD the international experience and best practices in relation to the long-term optimisation of new ATMS.

The Expert Panel published an interim report in April 2017, which confirmed that, up till the end of February, the new ATMS had been providing safe, reliable and generally smooth air traffic services within the Hong Kong Flight Information Region and had been compliant with the international safety standard since its full commissioning. Although the new ATMS experienced some operational hindrances during the run-in period, the interim report stated that CAD's staff had handled those occurrences professionally and properly, as per standing practice, and minimised potential safety risks. The Expert Panel considered that CAD had in place an effective and established mechanism for responding to different situations occurring after the full commissioning of the new ATMS, which was on par with international best practices and the ICAO's safety management system process.

Apart from a record-high number of aircraft handled (including flight movements at the HKIA and overflights), passenger traffic at the HKIA exceeded the 70-million mark for the first time and cargo volume expanded 6.7% to 4.6 million tonnes, securing HKIA as the world's busiest cargo airport for the seventh consecutive year. The total number of civil aircraft in the Hong Kong Civil Aircraft Register went to close to 330, including the latest A350 and A320(Neo) aircraft. These figures represent, on the one hand, the efforts of CAD staff and the aviation industry, and on the other, the rapid development of the global aviation industry.

Facing the development and competition of the global aviation industry, Hong Kong must enhance partnership among the airports in the Pearl River Delta (PRD) region to strengthen synergies and bring mutual benefits, thus achieving a win-win situation. To this end, the civil aviation authorities of the Mainland, Hong Kong and Macau signed an agreement in Hong Kong during the year on establishing a strengthened liaison mechanism, which put in place a regular meeting mechanism, to enhance cooperation and exchange among the three parties on air traffic management planning and implementation in the PRD region. This would enable the 3RS of HKIA to maximise its potential and to achieve the target runway capacity of 102 air traffic movements per hour in the long run.

展望未來，民航處將繼續面對不少挑戰和機遇，例如提升香港處理航空客貨運的能力、增加人手以應付航空交通增長、規管急速發展的無人駕駛飛機系統等等。民航處全人會秉承七十年的優良傳統，繼往開來，堅守崗位，精益求精，不斷提升設備和適時完善相關規例，致力確保航空安全，提供卓越的航空交通管理服務，鞏固香港國際航空交通樞紐的地位。

Looking ahead, CAD will face many challenges and opportunities, for instance, to enhance Hong Kong's capacity to handle air passengers and cargo traffic, to increase manpower to cope with the growth in air traffic, to regulate the use of the Unmanned Aircraft Systems (UAS), etc. Building on 70 years of legacy, CAD staff will continue to perform our duties faithfully and strive to constantly improve our services. We will enhance our facilities and improve the rules and regulations as appropriate so as to safeguard aviation safety and provide quality air traffic management services, reinforcing Hong Kong's status as an international aviation hub.

民航處成立的航空交通管理系统专家小组，成员包括詹永年(左一)、Marc Houalla(左二)、林光宇(左三)、柯冠名(右二)及文劭忠教授(右一)。
Members of the Air Traffic Management System Expert Panel set up by the Civil Aviation Department include Mr Warren Chim (first left), Mr Marc Houalla (second left), Mr Albert Lam (third left), Mr Kuah Kong Beng (second right) and Professor Man Hau-chung (first right).





前排 Front row (左起 from left)

民航處副處長(1)
Deputy Director-General of
Civil Aviation (1)

廖志勇太平紳士
Captain Victor Liu Chi-yung, JP

民航處處長
Director-General of
Civil Aviation

李天柱太平紳士
Mr Simon Li Tin-chui, JP

民航處副處長(2)
Deputy Director-General of
Civil Aviation (2)

蔡傑銘先生
Mr Kevin Choi

助理處長(航空交通管理)
Assistant Director-General
(Air Traffic Management)

李國柱先生
Mr Raymond Li Kwok-chu

後排 Back row (左起 from left)

部門秘書
Departmental Secretary

張振聲先生
Mr Ivan Cheung Chun-shing

助理處長(機場標準)
Assistant Director-General
(Airport Standards)

伍子安先生
Mr Raymond Ng Che-on

助理處長(飛行標準)
Assistant Director-General
(Flight Standards)

劉家駒機長
Captain Samson Lau Ka-kui

助理處長(航班事務及安全管理)
Assistant Director-General (Air
Services and Safety Management)

岑毓麟先生
Mr Alan Shum York-lan

總庫務會計師
Chief Treasury Accountant

岑倫光先生
Mr Stewart Shum Lun-kwong

助理處長(航空交通工程服務)
Assistant Director-General
(Air Traffic Engineering Services)

胡志光先生
Mr Richard Wu Chi-kwong

組織圖

Organisation Chart



大事紀要

Calendar of Events

四月五至八日

5-8 April

民航處代表參加由國際民用航空組織(國際民航組織)舉辦的疲勞風險管理系統座談會。

CAD representatives attended the Fatigue Risk Management Systems Symposium organised by the International Civil Aviation Organization (ICAO).

四月二十五至二十九日

25-29 April

民航處代表出席二零一六年國際維修審查委員會政策委員會會議。

CAD representatives attended the 2016 International Maintenance Review Board Policy Board Meeting.

五月五至六日

5-6 May

為促進航空業界的安全協作和推廣安全文化，並加強《香港安全方案》的發展，民航處舉辦「航空安全會議2016」。會議以「挑戰・前景」為主題，吸引逾250位來自50家海外及本地機構的業界人士參加。

To promote safety partnership, safety culture and development of "Hong Kong Safety Programme" amongst the aviation community, CAD organised the Aviation Safety Conference 2016. Themed as "Challenges and the Way Forward", the forum attracted over 250 participants from 50 local and overseas organisations.

2016



2016

五月九日

9 May

中國民用航空局(國家民航局)副局長王志清和時任運輸及房屋局局長張炳良教授見證國家民航局空中交通管理局(空管局)、民航處和澳門民航局於香港簽署《強化內地與港澳民航空管珠江三角洲地區空中交通管理規劃與實施三方合作交流機制協議》。

Deputy Administrator of the Civil Aviation Administration of China (CAAC) Mr Wang Zhiqing and the then Secretary for Transport and Housing, Professor Anthony Cheung Bing-leung, witnessed the Air Traffic Management Bureau (ATMB) of the CAAC, the CAD and the Civil Aviation Authority of the Macau (AACM) signing an agreement in Hong Kong on establishing a strengthened liaison mechanism to enhance co-operation and exchange among the civil aviation authorities in the Mainland, Hong Kong and Macau on air traffic management planning and implementation in the Pearl River Delta (PRD) region.

五月三十一及六月一日

31 May - 1 June

民航處代表出席亞太遙控航空器系統研討會。

CAD representatives attended the Asia-Pacific Remotely Piloted Aircraft Systems Symposium.

六月十四至十六日

14-16 June

民航處代表出席歐洲航空安全局/美國聯邦航空局合辦的國際安全會議。

CAD representatives attended the International Safety Conference organised by the European Aviation Safety Agency and the Federal Aviation Administration of the United States (FAA).

2016



大事紀要

Calendar of Events

2016

七月六至八日

6-8 July

民航處處長李天柱到北京，禮節性拜訪國家民航局副局長李健及王志清，並與國家民航局空管局局長車進軍會面。大家就促進內地和香港民航業的合作和交流及珠三角航空交通管理交換意見。

The Director-General of Civil Aviation, Mr Simon Li, paid a courtesy call on the CAAC in Beijing and met Deputy Administrators of the CAAC, Mr Li Jian and Mr Wang Zhiqing. He also met the Director-General of ATMB of the CAAC, Mr Che Jinjun, to exchange views on strengthening co-operation and exchange between the Mainland and Hong Kong in respect of civil aviation and PRD air traffic management.

十月一日

1 October

民航處加入民用空中航行服務組織成為正式會員。該組織於一九九六年成立，為非牟利機構，旨在代表環球航空交通管理機構的利益。該組織現有超過一百六十個代表空中航行服務及業界組織的成員。

CAD joined the Civil Air Navigation Services Organisation (CANSO) as a full member. CANSO is a non-profit organisation founded in 1996 with an aim to represent the interests of the global air traffic management community. Today, it has more than 160 members from air navigation service providers and industry suppliers.

兩份分別關於維修保養航空交通管制系統(空管系統)及山頂無線電站通訊設備的技術服務合約開始生效。

Commencement of two Technical Services Contracts for the operations and maintenance of Air Traffic Control (ATC) systems and communication facilities at hilltop radio stations.

十月三十一至十一月四日
31 October - 4 November

民航處參加國際民航組織第9屆亞太地區航空安全小組會議。
CAD representatives attended the Ninth Meeting of the Asia Pacific Regional Aviation Safety Team organised by the ICAO.

十一月十四日
14 November

位於東航空交通管制中心及北指揮塔的新空管系統投入運作。

Commissioning of the new Air Traffic Control (ATC) Systems at East ATC Centre and North ATC Tower.

2016

十二月八及九日
8-9 December

國家民航局空管局、民航處及澳門民航局在湖南省長沙市舉行了珠江三角洲(珠三角)地區空中交通管理規劃與實施三方工作組會議，再就珠三角地區空域優化措施和合作事宜交換意見，以及研究改善航班延誤情況的措施。

The ATMB of the CAAC, the CAD and the AACM held the PRD Region Air Traffic Management Planning and Implementation Tripartite Working Group meeting in Changsha, Hunan Province, to exchange views on PRD airspace enhancement measures and study measures to improve the flight delay situation.

2017

三月二十七至三十日
27-30 March

民航處代表參加二零一七年美國聯邦航空局亞太雙邊夥伴對話會。

CAD representatives attended the 2017 FAA Asia-Pacific Bilateral Partners Dialogue Meeting.

2017

航空交通統計

Air Traffic Statistics

過往五年國際民航交通概況

Five-Year Civil International Air Traffic

(二零一二年四月至二零一七年三月) (April 2012 – March 2017)

財政年度 Fiscal Year	飛機升降次數 Aircraft Movement		乘客* Passenger*		商業貨物 Commercial Cargo	
	升降次數 Movement	升跌百分比 % Change	人次 Number	升跌百分比 % Change	公噸 Tonnes	升跌百分比 % Change
2012-2013	355 008	5%	56 425 252	5%	4 039 873	3%
2013-2014	377 478	6%	60 085 950	6%	4 176 970	3%
2014-2015	395 997	5%	64 264 961	7%	4 405 028	5%
2015-2016	410 065	4%	69 303 711	8%	4 343 289	-1%
2016-2017	410 455	0.1%	70 047 862	1%	4 635 588	6.7%

* 乘客人次包括轉機，但不包括過境乘客。

* Passengers include transfer, but exclude transit passengers.

過往五年航空交通管理部處理的航班總數

Five-Year Total Flights Handled by the Air Traffic Management Division

(二零一二年四月至二零一七年三月) (April 2012 – March 2017)

財政年度 Fiscal Year	航班總數* Flights Handled*	升跌百分比(比上年) % Change (from last year)
2012-2013	563 642	6%
2013-2014	602 392	7%
2014-2015	631 383	5%
2015-2016	670 481	6%
2016-2017	700 868	5%

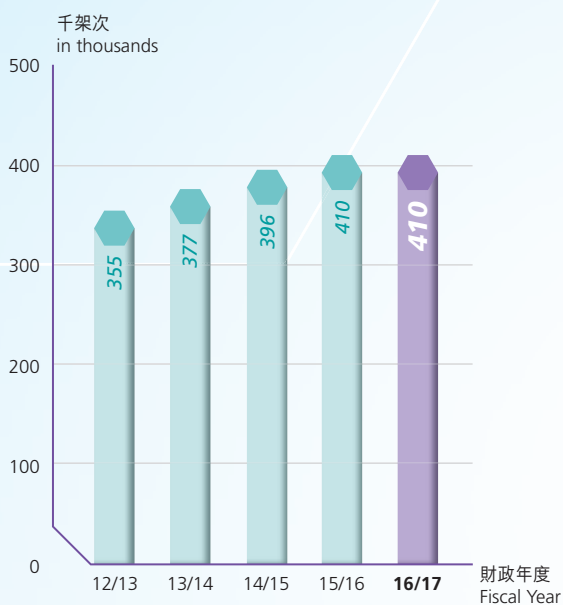
* 「航班總數」乃由香港民航處航空交通管理部每年所處理的班機數目。其中包括：

- (1) 在香港國際機場升降的國際及本地航班；
- (2) 所有飛越香港飛行情報區而不在本港升降的航班；
- (3) 由航空交通管理部處理進出澳門國際機場的航班。

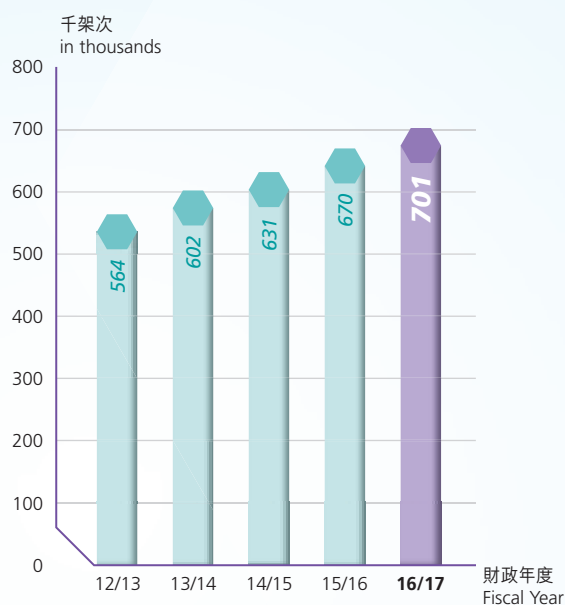
* "Flights Handled" is the total number of aircraft handled by the Air Traffic Management Division of CAD in the year. It includes:

- (1) international and local aircraft movements at the Hong Kong International Airport;
- (2) flights transiting the Hong Kong Flight Information Region not landing Hong Kong;
- (3) flights landing and departing Macao International Airport handled by the Air Traffic Management Division.

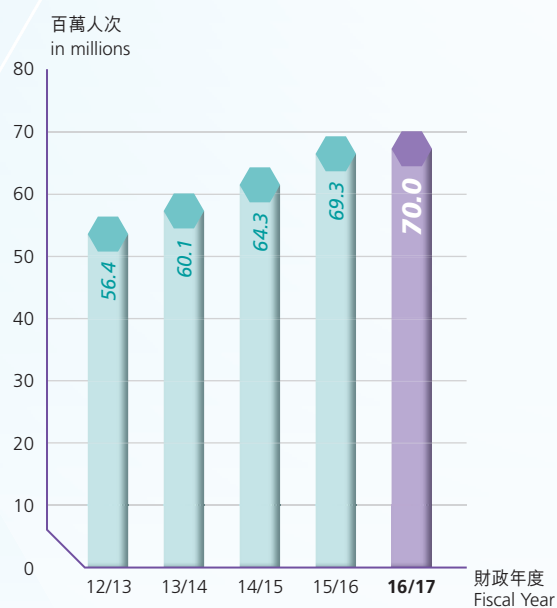
香港國際機場過往五年航機升降次數 Five-Year Aircraft Movement at the Hong Kong International Airport



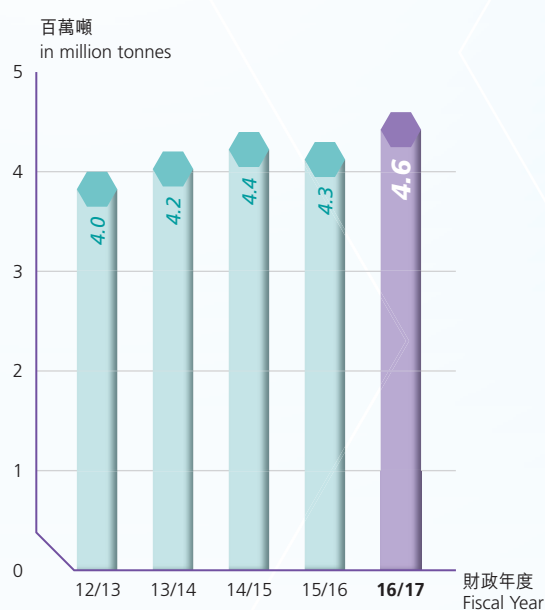
過往五年航空交通管理部處理的航班總數 Five-Year Total Flights Handled by the Air Traffic Management Division



香港國際機場過往五年客運量 Five-Year Passenger Traffic at the Hong Kong International Airport



香港國際機場過往五年貨運量 Five-Year Cargo Traffic at the Hong Kong International Airport



航空交通管理

Air Traffic Management

航空交通管理部負責為在香港飛行情報區內航行的民航機提供空中導航服務，當中包括航空交通服務，通訊、導航和監察，以及搜索和救援。為履行使命，在香港飛行情報區內提供持續可靠的導航服務，並維持航空交通高效有序的運作，本部亦肩負培訓本地航空交通管制(空管)人員、提供航空電訊服務和設計空管程序的責任。

The Air Traffic Management Division (ATMD) is responsible for the provision of air navigation services to civil aircraft operating within the Hong Kong Flight Information Region (HKFIR). The services include air traffic services, communications, navigation and surveillance as well as search and rescue. With the mission of providing reliable and sustainable air navigation services and maintaining efficient and orderly air traffic operations within HKFIR, ATMD is also responsible for the training of air traffic control (ATC) personnel, provision of aeronautical telecommunication services and the design of ATC procedures.





航空交通管理

Air Traffic Management

對本部來說，二零一六年是充滿挑戰的一年。在經過仔細籌備後，新航空交通管理系統（航管系統）已於十一月十四日順利全面投入服務，航空交通運作正式轉由位於民航處總部的空管中心及香港國際機場的北空管指揮塔處理。除模擬培訓外，空管人員自六月起便以分階段啓用的方式，累積利用新航管系統處理實時航空交通的經驗。在推行分階段啓用期間，系統的運作時間和服務覆蓋範圍在安全、穩定和可靠的情況下循序擴展，以至包括日間和晚間的運作，以及應對良好和惡劣的天氣狀況。自全面投入運作以來的首四個月，新航管系統順利克服在二零一六年年尾和二零一七年初，節日假期航空交通流量高峰期所帶來的挑戰。其間，系統平均每日處理的航班數量較上年度同期上升3.75%。

航空交通運作

在本財政年度內，航空交通管理部處理了412 223架次在香港國際機場升降的國際及本地航班，並為288 645架次飛越香港飛行情報區的航班（當中包括55 234架次往來澳門國際機場的航班）提供空管服務。與上一年度比較，在香港國際機場升降的航班數目增加了0.17%，而飛越香港的航班數目則增加了11.46%。

跑道升降容量

香港國際機場的雙跑道於年內維持每小時68架次的最高容量。

航空交通管制主任執照考試和覆核

為維持空管運作的表現和安全標準，本部的訓練及安全組為航空交通管制主任（空管主任）安排各類實務考試。年內，就塔台管制、進場管制和區域管制三個空管範疇共舉行了176次實務考試。此外，本部也向經考核及格的人員頒發助理管制員證書、空管氣象記錄員證書、在職培訓導師證書和流量管制證書。

2016 had been a very challenging year for ATMD. After conducting thorough preparations, the new Air Traffic Management System (ATMS) was successfully commissioned in full on 14 November 2016 with air traffic operations handled in the ATC Centre at CAD Headquarters and North ATC Tower at the Hong Kong International Airport (HKIA). Apart from simulator training, ATC staff was given opportunities to handle live air traffic during Phased Functional Implementation (PFI) using the new ATMS since June 2016. The operating time and scope of service of the PFI had been expanding progressively in a safe, stable and reliable manner, to cover both day and night operations as well as good and adverse weather conditions. Throughout the first four months since full commissioning, the new ATMS has successfully coped with the challenges of peak traffic demand during the holiday seasons in the end of 2016 and early 2017. The average number of daily air traffic movements handled increased by 3.75% when compared with the same period a year earlier.

AIR TRAFFIC OPERATIONS

During the financial year, ATMD handled 412 223 international and local aircraft movements at HKIA. In addition, ATMD handled 288 645 flights overflying the HKFIR (including 55 234 flights into and out of Macau International Airport). Compared with the previous year, the number of aircraft movements at HKIA and overflights increased by 0.17% and 11.46% respectively.

Runway Capacity

The handling capacity of the two runways at HKIA was maintained at a maximum of 68 movements per hour within the year.

Examinations and Revalidations of Air Traffic Control Officer Ratings

The Training and Safety Section of ATMD carried out practical examinations on Air Traffic Control Officers (ATCOs) to ensure that the required performance and safety standards in ATC operations are maintained. In the year, 176 practical examinations were conducted in the three ATC streams – Aerodrome Control, Approach Control and Area Control. In addition, ATMD also issued Assistant Controller Certificates, ATC Meteorological Reporter Certificates, On-the-job Instructor Certificates and Flow Control Certificates to officers who had attained these qualifications.

招聘和培訓空管人員

招聘和培訓見習空管主任

招聘和培訓見習空管主任的工作必須審慎規劃和管理，以配合預期的航空交通增長和人手需求。由於本地就業市場欠缺具備所需資歷的空管主任，民航處通常會招聘見習空管主任，經過專門培訓後，再擢升為空管主任。

在見習空管主任的招聘程序中，合資格的申請人必須通過一系列的評估，包括才能測驗筆試、工作性格測驗和面試。通過上述各項評估的申請人會在評估中心接受更深入的認知能力測試和性格評估。

RECRUITMENT AND TRAINING OF ATC STAFF

Recruitment and Training of Student Air Traffic Control Officers (SATCOs)

The recruitment and training of ATC staff have to be carefully planned and managed to meet anticipated air traffic growth and manpower needs. As qualified ATCOs are not readily available in the local job market, individuals are normally recruited as SATCOs. After specialised training, they will progress from SATCOs to ATCOs.

During the recruitment of SATCOs, eligible candidates will go through a series of assessments including a written aptitude test, an occupational personality questionnaire and an interview. Further in-depth assessment on cognitive ability and personality traits will be conducted in the Assessment Centre for candidates who pass all the assessments mentioned.

空管主任在東空管中心使用新系統提供空管服務。

ATCOs provide ATC services with the new ATMS at the East ATC Centre.

見習空管主任的培訓需要周詳規劃，務使受訓學員的表現能達到既定的進展基準。培訓計劃由不同階段的訓練單元組成，以確保學員充分掌握所學技能後，才開始接受另一單元的培訓。各個訓練單元均包括課堂學習、利用空管雷達模擬器或塔台模擬機進行模擬訓練，以及於工作崗位接受在職培訓。受訓人員必須通過考核，才會獲准獨立工作。培訓見習空管主任成為合資格的管制員，以擔任二級空管主任的職位，一般需時六年左右。

除本地培訓外，見習空管主任也會到海外修讀基本空管課程，內容廣泛，包括空管程序、氣象、雷達操作、飛行原理等航空知識，以擴闊他們在空管運作方面的閱歷。在本財政年度內，共有九名見習空管主任完成海外基本空管課程。

截至二零一七年三月三十一日，空管主任的編制有280人，為空管主任提供支援的航空交通事務員則有118人。

The training programme of SATCOs is carefully designed and arranged to meet the established performance development benchmarks. It comprises staged training modules to ensure adequate consolidation before the next module. Each training module includes classroom lectures, practical training in the ATC Radar Simulator or Aerodrome Simulator, and on-the-job training at operational positions. After passing the validation check, the officer will be allowed to operate independently. The training of a SATCO to become a fully qualified controller at the rank of ATCO II normally takes around six years.

Apart from local training, SATCOs also attend overseas basic ATC courses. A wide coverage of aviation topics including ATC procedures, meteorology, radar operations and principles of flight will be introduced to broaden their exposure to various aspects of ATC operations. A total of nine SATCOs completed their overseas basic ATC courses in this financial year.

As at 31 March 2017, the ATCO and Air Traffic Flight Services Officer (ATFSO) (supporting staff to ATCO) establishment numbered at 280 and 118 respectively.



見習空管主任到海外修讀基本空管課程，包括飛行原理等航空知識。
A SATCO attends overseas basic ATC courses, which include principles of flight.

其他職級的空管培訓

為人員提供空管專業培訓是航空交通管理部的重點任務之一。本部在年內定期舉辦多項培訓課程和在職培訓活動。

年內，本部舉辦了16項專業空管培訓課程，受訓人員從中取得多項專業空管資格，期間獲發的空管執照達20項。此外，又為150名雷達管制員舉辦雷達管制複修課程，讓他們在遇上突發情況時，例如在惡劣天氣下，或飛機發生緊急事故時，也能應付裕如。本部還挑選了多名資深的空管主任接受不同範疇的進階培訓，包括安全管理系統、新式飛機操作、飛機意外調查和飛行程序設計等方面，以開拓他們的眼界，使他們勝任更專門的職務，以及承擔管理和督導責任。

新航管系統的銜接培訓

在二零一六年上半年，本部為所有空管主任和航空交通事務員提供了數項轉換培訓單元課程。培訓重點是要把新航管系統的操作程序融會貫通。完成轉換培訓後，所有參與者均須通過審核，確保他們已經準備就緒，可以參與新系統投入服務前的「新舊系統同步運作」。

本部並為所有操作人員進行新航管系統操作能力評估。評估工作於二零一六年八月底展開，並於二零一六年十一月初完成。所有空管主任和航空交通事務員均勝任新系統的操作工作。

其他培訓

除了安排內部空管培訓課程外，本部也與香港民航訓練中心合作，舉辦航空交通管理入門課程，讓業界伙伴和市民更深入了解航空交通管理的工作。課程定期舉辦，一直深受歡迎。

ATC Training for Other Ranks

One of ATMD's major tasks is the provision of professional ATC training to staff. Training courses and on-the-job training activities were conducted regularly throughout the year.

During the year, 16 professional ATC training courses were conducted, leading to the issuance of 20 ATC ratings and the attainment of various professional ATC qualifications. Radar refresher training was conducted for 150 Radar Control personnel. The refresher training aims to ensure controllers' competency in responding to unusual circumstances, such as poor weather operations and aircraft emergencies. In addition, senior ATCOs were selected to attend advanced training in Safety Management System, Operations of Modern Aircraft, Aircraft Accident Investigation, and Flight Procedures Design, etc., to broaden their horizons, and enable them to undertake more specialised duties as well as management and supervisory responsibilities.

Transition Training for New ATMS

Several modules of conversion training were conducted for all ATCOs and ATFSOs in the first half of 2016. The training focused on full application of operational procedures using the new ATMS. After the completion of the conversion training, all participants were assessed on their readiness in the participation of "shadowing operations" prior to the implementation of the new ATMS.

Assessments of competency in handling the new ATMS for all operational staff commenced in end Aug 2016 with the final assessment being completed by early Nov 2016. The results of the assessments were satisfactory.

Other Training Offered

Apart from in-house ATC training courses, ATMD also conducted an Introduction to Air Traffic Management Course in conjunction with the Hong Kong Civil Aviation Training Centre for industry partners and the public to have a better appreciation of air traffic management functions. The course is conducted regularly and has been well received.

新空管/飛程序

優化儀表進場程序的飛行高度和速度要求

要達到最高的跑道容量，在管理抵港航班方面，必須達至及持續保持飛機之間準確的進場間距。本部於年內進行了優化工作，統一不同進場程序的起始高度和進場速度標準，促進抵港航班達至最理想的排序。制訂統一進場程序標準，目的是盡量減少人手排序和安排高度的需要，藉此提升運作效率和跑道容量，並減少空管人員和飛行員的工作量。

珠江三角洲(珠三角)地區航空交通管理計劃

為了全面落实《珠三角地區空中交通管理規劃與實施方案》(《方案》)內的優化措施，民航處一直透過三方工作組與中國民用航空局(國家民航局)和澳門民航局保持緊密聯繫，商討分階段推展各項優化措施。二零一六年五月九日，在國家民航局副局長王志清和時任運輸及房屋局局長張炳良教授見證下，內地、香港和澳門三地民航當局於香港簽署了強化合作交流機制協議，透過訂立定期會面機制，加強三方在珠三角地區空中交通管理規劃及實施方面的合作交流。

NEW ATC / FLIGHT PROCEDURES

Rationalisation of Altitude and Speed Requirements of Instrument Approach Procedures

Maximising runway capacity is critically dependent upon management of arrival flows to achieve an accurate and consistent inter-arrival spacing between aircraft. During the year, ATMD rationalised the initial approach altitudes and approach speeds for standardisation of different approach procedures to facilitate optimum arrival sequencing. Such standardisation aimed to minimise the need for sequencing manoeuvres and speed control to achieve maximum efficiency and capacity, reducing the workload of both controllers and pilots.

AIR TRAFFIC MANAGEMENT PLAN FOR THE PEARL RIVER DELTA (PRD) REGION

With the aim of full implementation of the enhancement measures as stipulated in the PRD Region Air Traffic Management Planning and Implementation Plan (the Plan), CAD has been maintaining close liaison with the Civil Aviation Administration of China (CAAC) and the Civil Aviation Authority of Macau (AACM) through the Tripartite Working Group (TWG) to discuss the phased implementation of the enhancement measures. On 9 May 2016, witnessed by the Deputy Administrator of the CAAC, Mr Wang Zhiqing, and the then Secretary for Transport and Housing, Professor Anthony Cheung Bing-leung, the civil aviation authorities of the Mainland, Hong Kong and Macau signed an agreement in Hong Kong on establishing a strengthened liaison mechanism, which put in place a regular meeting mechanism for the TWG, to enhance cooperation and exchange among the three parties on air traffic management planning and implementation in the PRD region.



《強化內地與港澳民航管珠江三角洲地區空中交通管理規劃與實施三方合作交流機制協議》簽署儀式。

Signing ceremony of the agreement on establishing a reinforced liaison mechanism to enhance co-operation and exchange among the civil aviation authorities in the Mainland, Hong Kong and Macau on air traffic management planning and implementation in the Pearl River Delta region.



北空管指揮塔
North ATC Tower

自簽署協議後，三方舉行了多次領導層面及技術層面的會議。

為推動空管和技術專家進行更深入的技術研討，三方於二零一六年十二月的會議通過，成立空域管理技術組和流量管理技術組。年內，三方工作組一直緊密合作，推行了多項優化措施，以配合珠三角地區日益增長的航空交通流量。

內地、香港和澳門會繼續透過這個協調機制促進三方的協同合作，推展各項空域優化方案，並以安全有序的方式，逐步落實《方案》的最終目標，讓香港國際機場三跑道系統能夠發揮最大效用，以期達至每小時處理102班航班的長遠目標。

航空情報管理中心

航空情報管理中心負責向航空業界提供航空情報服務，以及為香港國際機場航班處理飛行計劃書。年內，航空情報管理中心共處理681 904份航行通告及226 138份飛行計劃書。

Since the signing of the agreement, several meetings at both high level and technical level were held.

In order to facilitate in-depth technical discussions among various experts from ATC, and technical fields, the three sides agreed in the meeting in December 2016 to establish the Airspace Management Technical Sub-group and Air Traffic Flow Management Sub-group. During the year, the three sides have been working closely on a number of enhancement measures in order to cope with increasing air traffic demand in the PRD region.

The Mainland, Hong Kong and Macau will continue promoting the synergy and foster cooperation through the tripartite coordination mechanism, in the aim of pushing forward airspace enhancement measures, and achieving the ultimate target of implementing the Plan progressively in a safe and orderly manner. This would enable the three-runway system of the HKIA to maximise its potential, and to achieve the target runway capacity of 102 air traffic movements per hour in the long run.

AERONAUTICAL INFORMATION MANAGEMENT CENTRE

The Aeronautical Information Management Centre, which is responsible for the provision of aeronautical information service to the aviation community and processing of flight plans for flights departing from HKIA, handled 681 904 Notices to Airmen and 226 138 flight plans in the year.

電訊服務

民航處總部新航空網絡中心於二零一五年十月正式啓用。該中心安裝了先進的航空交通服務訊息處理系統和自動化的氣象情報交換系統，使航空通訊組處理的航空固定電訊網/航空電訊網資訊量在年內持續增長。此外，該中心還配備了功能強大的網絡安全工具，能為空管系統提供網絡監察和警報功能，確保系統的網絡安全。在固定航空通訊服務方面，處理的訊息達到58 289 501個，較上年度增長8.8%。至於航空氣象廣播服務的訊息方面，較上年度增長0.9%，達354 688個。

安全管理系統

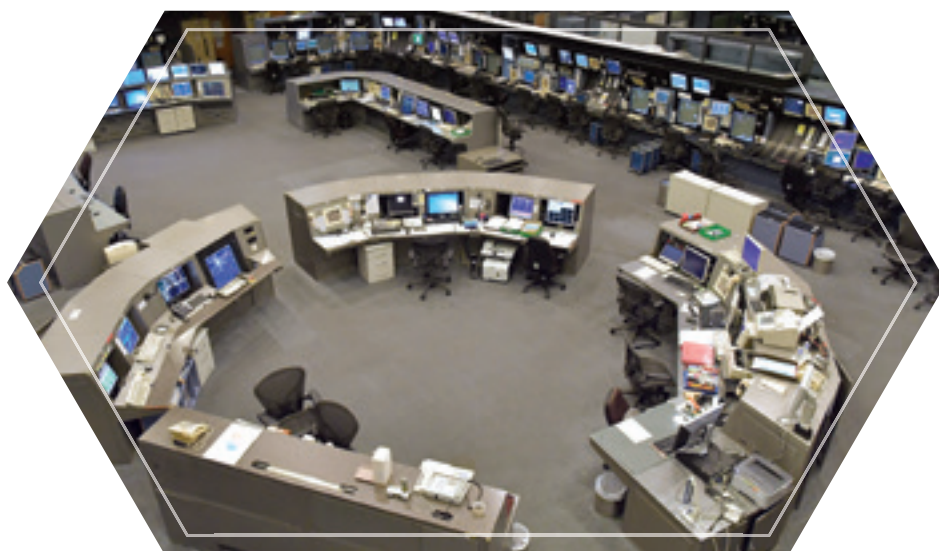
本部繼續致力推行安全管理系統，以期全面提升航空安全表現。為此，本部根據國際民用航空組織(國際民航組織)的條文和民航處的監管規定，積極推行安全風險管理和安全保證。在航管系統、儀器或程序作出重大變動前，本部會先評估安全風險和採取適當的緩解措施。就此，為配合推行新航管系統，本部在二零一六年四月至十月，共進行了19項安全風險評估。

TELECOMMUNICATIONS SERVICES

With the commissioning of the new Aeronautical Network Centre at CAD Headquarters since Oct 2015, the total number of Aeronautical Fixed Telecommunication Network/ Aeronautical Telecommunication Network messages handled by the Telecommunications Unit continued to increase in the year through the use of a newly installed state-of-the-art ATS Message Handling System and a fully automated Operational Meteorological Bulletin Exchange system. Equipped with powerful network security tools, the new centre also provides monitoring and alerting functions in safeguarding the network security of the ATC systems. On Aeronautical Fixed Service, 58 289 501 messages were handled, representing an increase of 8.8% as compared with last year. On Aeronautical Broadcast Service, the total number of weather messages broadcast to aircraft in flight amounted to 354 688, representing a 0.9% increase compared with last year.

SAFETY MANAGEMENT SYSTEM (SMS)

ATMD continued putting in substantial efforts to enhance the overall aeronautical safety performance through effective implementation of its SMS. This is accomplished by proactive application of safety risk management and safety assurance in compliance with the provisions of the International Civil Aviation Organization (ICAO) and regulatory requirement of the department. Safety risk assessment is conducted and appropriate mitigation measures are introduced before any significant changes to the air traffic management systems, equipment or procedures can be implemented. In this regard, a total of 19 safety risk assessments were carried out from April to October 2016 in connection with the implementation of the new ATMS.



舊航管系統在新航管系統全面投入運作後，維持備用狀態一段時間。
The old ATMS has been in standby mode for a period of time upon commissioning of the new system.

為監察與衡量安全績效表現，本部每季編製安全績效目標報告和安全績效指標報告，並呈交予負責監管本部安全績效的單位，即航空交通管理標準組審閱。此外，為確保安全管理系統不斷改進，年內本部就各個主要職能範疇進行了三次內部安全審查。本部又繼續支援航空交通管理標準組，協助其執行監管工作。

另外，本部繼續為員工提供合適的安全管理系統培訓，推廣重視安全的文化。除空管的基本培訓和複訓單元外，本部還推行了周詳的安全管理系統培訓計劃，向所有空管人員灌輸安全管理概念。

飛航搜索和救援(搜救)工作

本部與區域和國際搜救機關保持密切聯繫，並繼續參加本地和國際搜救會議及研討會。二零一六年五月，民航處與內地救助打撈局(救撈局)簽訂合作協議，在民航處要求下，救撈局會調派設施協助搜救及打撈行動。二零一六年十一月，民航處大樓的新搜救協調中心亦隨著新航管系統的啓用而全面投入服務。此外，本部亦恆常派員參與機場和飛機緊急事故演習。

海外航空會議和研討會

本部為亞太區內具領導地位的空中導航服務提供者之一，積極參與推動區內以至全球航空交通管理發展的研討會及會議，主題包括航空交通流量管理、基於性能導航程序及機場協作決策方案。大部分會議及研討會由國際民航組織、民用空中導航服務組織和區內其他民航當局主辦。

Reports on Safety Performance Targets and Safety Performance Indicators were compiled and submitted to the regulatory office overseeing the safety performance of ATMD, i.e. the Air Traffic Management Standards Office (ATMSO), on a quarterly basis for safety performance monitoring and measurement. To ensure continuous improvement in safety performance, three internal audits were conducted in the year on different key functional areas of ATMD. In the meantime, ATMD continued to provide necessary support to the ATMSO in facilitating regulatory oversight activities.

Besides, ATMD maintained its efforts to provide staff with appropriate SMS training in order to promote safety culture. A structured SMS training programme has been put in place to supplement the basic and recurrent ATC training modules in order to instil the concept of safety management in all ATC personnel.

AERONAUTICAL SEARCH AND RESCUE (SAR)

ATMD maintained close liaison with regional and international SAR authorities and continued to participate in local and international aeronautical SAR meetings and seminars. In May 2016, CAD concluded a cooperation agreement with the Mainland Rescue and Salvage Bureau (RSB) that at CAD's request, RSB would mobilise their facilities to assist in conducting SAR or salvage operation. In connection with the implementation of the new ATMS in November 2016, the new Rescue and Coordination Centre located within the CAD Building was also successfully commissioned. ATMD also regularly attended airport and aircraft emergency drills.

OVERSEAS AERONAUTICAL MEETINGS AND CONFERENCES

Being one of the leading air navigation services providers in the Asia Pacific Region, ATMD actively participated in meetings, seminars and conferences in the region and globally, which promoted the development of air traffic management including air traffic flow management, performance based navigation procedures and airport collaborative decision making. Most of the meetings and seminars were organised by the ICAO, Civil Air Navigation Services Organisation and other civil aviation authorities within the region.



航空交通工程服務 Air Traffic Engineering Services

航空交通工程服務部負責設計、規劃、統籌、提供、驗收、優化和保養航空交通管制系統(空管系統)與通訊、導航及監察設施。

The Air Traffic Engineering Services Division (AESD) is responsible for the design, planning, coordination, provision, commissioning, enhancement and maintenance of air traffic control (ATC) systems as well as communications, navigation and surveillance facilities.



航空交通工程服務

Air Traffic Engineering Services

更換空管系統

舊空管系統於一九九八年香港國際機場啓用時投入服務，運作已超過18年。為應付預期的航空交通需求，本處於二零零七年獲立法會撥款15.65億元更換舊空管系統。整個新空管系統透過八份主要合約實施。隨着新航空交通管理系統(航管系統)於二零一六年十一月全面投入服務，設於東航空交通管制中心(東空管中心)及北空管指揮塔(北指揮塔)的八個主要系統業已全部投入運作。

運輸及房屋局(運房局)在二零一五年十一月委聘獨立海外顧問，評估新航管系統與操作人員的準備狀況。民航處在考慮過運房局顧問的建議，以及內部對整體運作準備狀況的評估後，由二零一六年六月十九日開始採用分階段過渡方式(即分階段啓用新航管系統)，

Replacement of ATC Systems

The old ATC systems have been in use for over 18 years since the opening of Hong Kong International Airport (HKIA) in 1998. To meet the projected air traffic demand, the Legislative Council approved a provision of \$1.565 billion in 2007 for replacement of the old ATC systems. The new ATC systems are implemented through eight major system contracts. With the new Air Traffic Management System (ATMS) fully commissioned in November 2016, all of the eight major systems in East ATC Centre (E-ATCC) and North ATC Tower (N-TWR) have been put into operational use.

The Transport and Housing Bureau (THB) appointed an independent overseas consultant in November 2015 to assess the new ATMS and staff readiness. Taking into account the recommendation from the THB consultant as well as CAD's own assessment on the overall operational readiness, CAD adopted a phased transition approach, termed Phased Functional Implementation, starting from 19 June 2016 to manage live air traffic in a progressive manner.



循序漸進地以新系統處理實時航空交通。經評估所有因素包括員工準備情況和資源需求等已準備就緒後，新航管系統於二零一六年十一月投入運作。

自過渡以來，坐落於東空管中心及北指揮塔的新空管系統運作大致暢順，並成功處理聖誕及新年假期高峰期所增加的航班。鑑於新航管系統的複雜性，民航處成立了航管系統專家小組，成員包括五位本地和海外航管系統專家、學者和電子工程師。專家小組的職權範圍是就新航管系統投入運作後所遇到的問題和所須進行的優化工作，向民航處提供客觀和專業意見，並就新航管系統的長遠優化工作，與民航處分享國際經驗和最佳做法。專家小組的任期為一年，由二零一六年十二月至二零一七年十一月。

After assessing all relevant factors such as staff readiness and resource needs were ready, the new ATMS has been commissioned in November 2016.

Since the transition, the new ATC systems in the E-ATCC and N-TWR have been operating smoothly in general and successfully handled the increasing air traffic during the peak traffic period in the Christmas and Chinese Lunar New Year holidays. Given the complexity of the new ATMS, CAD set up an ATMS Expert Panel comprised of 5 members from local and overseas Air Traffic Management (ATM) experts, academics and electronics engineers. Their terms of reference are to provide objective and expert advice to CAD on teething issues arising from the commissioning of the new ATMS and the necessary optimisation work; and to share with CAD the international experience and best practices in relation to the long-term optimisation of new ATMS. The members are appointed for a one-year term from December 2016 to November 2017.



東空管中心的新空管系統投入運作。
The new ATC systems were commissioned at the E-ATCC for operational use.



二零一七年三月，泰國航空無線電公司主席率團到訪民航處，以期從香港新空管系統無縫過渡的經驗中借鏡觀形。

In March 2017, AEROTHAI President led the project team to visit CAD to draw on the experience in achieving seamless transition of new ATC systems in Hong Kong.

與海外空中導航服務提供者分享香港過渡至新空管系統的經驗

泰國航空無線電公司在二零一七年三月二十七至二十八日參觀民航處，從本港過渡至新空管系統的經驗中借鏡觀形，為泰國的通訊、導航及監察/航管系統現代化計劃作出更妥善籌劃。本部及航空交通管理部的專業團隊，以高度互動的方式，從技術和運作兩方面，開誠地與該公司的代表分享香港無縫交接至新空管系統的經驗。

重訂技術服務合約事宜

香港國際機場的空管系統，以及位於扯旗山、畢拿山和鶴咀的山頂無線電站通訊設施的十年維修保養技術服務合約，均在二零一六年九月三十日屆滿。民航處已於合約屆滿前公開招標，在獲得政府中央投標委員會核准後，兩份各為期十年的技術服務合約在二零一六年第二季成功批出。隨着各項過渡安排順利完成，兩份新合約已按合約規定由二零一六年十月一日開始生效。

Experience Sharing on New ATC Systems with Overseas Air Navigation Services Provider

AEROTHAI visited CAD on 27-28 March 2017 to draw on CAD's experience in ATC systems transition to better prepare for their Thailand Modernisation CNS/ATM System (TMCS) transition project. Subject matter experts from AESD and Air Traffic Management Division had an open and highly interactive sharing, from both technical and operational aspects, with the delegates from AEROTHAI our experience in achieving seamless transition to the new ATC systems in Hong Kong.

Renewal of Technical Services Contract

The 10-year Technical Services Contracts (TSCs) for operations and maintenance of the ATC systems at the HKIA and communication facilities at hilltop radio stations located at Victoria Peak, Mount Butler and Cape D'Aguilar expired on 30 September 2016. Prior to the contract expiry, CAD mounted an open tender exercise. Upon approval given by the Government Central Tender Board, two new 10-year TSCs were successfully awarded in the 2nd quarter of 2016. With smooth completion of the transition-in arrangements, the two new TSCs have commenced since 1 October 2016 in accordance with contract requirements.

航空系統組塊升級

民航處根據國際民用航空組織(國際民航組織)的航空系統組塊升級框架,並考慮到亞太地區的《無縫空中交通管理計劃書》所訂定的優先次序,成功地與航空業界共同制定相關策略,分階段在香港實施各項組塊升級項目。年內,民航處繼續就航空系統組塊升級項目與持份者合作,並穩步發展,特別是先進場面活動引導和控制系統、廣播式自動相關監察系統和航空交通服務設施間數據通訊等項目。

持續發展安全管理系統,以提供穩妥的通訊、導航及監察服務和重要的屋宇服務設施

本部成功通過了航空交通管理標準組對安全管理系統進行的全面監管審查,並獲續發安全管理系統證書,效期由二零一六年一月至二零二零年十二月,為期五年。其後,本部於二零一六年六月舉行簡報會,與同事分享從中所得的寶貴經驗。年內,本部藉着舉辦安全訓練和推廣活動,繼續致力推廣安全意識。二零一六年十二月,本部安排同事參加由海外專家主講的有效安全管理課程,務求令處理安全管理系統的工作,不斷求進。

Aviation System Block Upgrades

In accordance with the International Civil Aviation Organization (ICAO) Aviation System Block Upgrades (ASBU) framework and after taking into consideration the priorities stipulated in the Seamless ATM Plan for the Asia Pacific region, CAD collaborated successfully with the aviation industry to develop strategies for phased implementation of ASBU modules in Hong Kong. Throughout the year, CAD continued working with the stakeholders on relevant ASBU modules and making steady progress, especially in the areas related to Advanced Surface Movement Guidance and Control System, Automatic Dependent Surveillance-Broadcast and Air Traffic Services Inter-facility Data Communication, etc.

Ongoing Development of Safety Management System in Support of the Provision of Safe Communications, Navigation and Surveillance Services as well as Critical Building Services Facilities

AESD passed the comprehensive Safety Management System (SMS) regulatory audits conducted by the Air Traffic Management Standards Office (ATMSO) and successfully renewed the SMS Certificate for another 5 years from January 2016 to December 2020. A briefing session was subsequently held in June 2016 to share with colleagues the valuable experience gained from the series of comprehensive regulatory audits. During the year, the division continued its momentum in safety promulgation through organising safety training sessions and promotional activities. In December 2016, with an objective to enhance the handling of SMS-related duties, the division arranged colleagues to attend the Effective Safety Management Course delivered by an overseas expert.



民航處處長李天柱於新的技術服務合約的簽約儀式上致辭。

The Director-General of Civil Aviation, Mr Simon Li, delivered a speech in the signing ceremony of the new Technical Services Contracts.



二零一六年六月，本部舉辦了一個簡報會，就通過一系列全面監管安全管理系統證書審查，與同事分享當中所獲得的寶貴經驗。
In June 2016, AESD held a briefing session to share with colleagues valuable experience gained from a series of comprehensive regulatory SMS certificate renewal audits.

本部繼續致力培育更多取得認可資格的內部審查員，藉以通過定期的內部審查和檢定，確保為空管系統提供持續的安全保障。本部亦全力配合航空交通管理標準組對衛星通訊、導航及監察/航管系統、外站運作，以及技術安全事故報告和調查程序所進行的審查和檢定工作。

本着積極主動進行安全監察的使命，本部按照國際民航組織的安全管理系統要求，定期審視和更新安全表現指標和目標。隨着新空管系統於二零一六年十一月啓用，本部在收集足夠的運作數據後，將會訂定一套新的安全表現指標和目標，以及制定有效的風險緩解措施。

To secure continuous safety assurance of ATC systems through regular internal audits and inspections, continuous efforts were made to expand the pool of approved internal auditors. The division also provided full support to the ATMSO's regulatory audits and inspections on the satellite-based CNS/ATM systems, outstation operations, and Technical Safety Occurrence (TSO) reporting and investigation processes.

In pursuit of proactive safety monitoring, the division conducted periodic reviews and updates of the Safety Performance Indicators and Targets (SPIs/SPTs) as per the ICAO SMS requirements. With the new ATC systems implemented in November 2016, a new set of SPIs/SPTs would be established through collection of sufficient operational data and formulation of effective risk mitigating measures.

推廣航空交通工程系統的網絡安全意識

航空交通工程系統是由多個相互連接的組件及子系統高度融合而成的網絡。儘管航空業界現時已就網絡安全採取一定的預防措施，但仍不可低估網絡安全事件的風險。

訂定適當的網絡安全策略對航空業界至為重要，國際民航組織制定了《航空交通管理安全手冊》（第9985號文件）和《航空保安手冊》（第8973號文件），為業界提供推行有效網絡安全措施的指引。

航空交通工程系統有可能會受到網絡安全威脅及成為目標，為了提高同事的意識，本部於二零一七年二月邀請了海外專家在民航處總部為各分部同事提供內部培訓。課程闡述了網絡安全的主要概念，介紹了國際民航組織的相關要求，概述了網絡安全事件的管理程序，還特別討論了航管系統內聯網，即「系統性信息管理」框架的網絡安全考慮因素。

二零一七年二月，本部邀請了海外專家，為各分部的同事提供航空交通工程系統網絡安全培訓課程。
In February 2017, AESD invited overseas experts to deliver a cyber security training course on air traffic engineering system for colleagues from different divisions.

Promotion of Cyber Security Awareness in Air Traffic Engineering System

The air traffic engineering system consists of a network of interconnected components and sub-systems with high degree of integration. Despite preventive cyber security measures currently adopted by the aviation industry, the risk of cyber security incident occurrence should not be underestimated.

Recognising the importance of defining an appropriate cyber security strategy for the aviation industry, the ICAO has prepared the Air Traffic Management Security Manual Doc 9985 and Aviation Security Manual Doc 8973 to provide guidance to the industry on the implementation of effective measures for cyber security.

To promote the awareness of colleagues in cyber security threats and vulnerabilities in air traffic engineering system, AESD invited overseas experts to conduct an in-house training course at the CAD headquarters in February 2017. The training elaborated key concepts of cyber security, introduced relevant ICAO's requirements, gave an overview of cyber security incident management process, and discussed in particular cyber security considerations of System Wide Information Management framework which is the intranet for ATM.



航空交通指揮塔的設計與建造培訓

為了作好準備，以展開三跑道系統項目中新航空交通指揮塔的設計與建造工作，本部安排了海外專家在二零一七年二月二十七日至三月三日期間，在民航處總部為各分部同事提供內部培訓。海外專家除了向同事傳授有關指揮塔的設計、建造、運作和維修保養的知識和經驗外，亦與同事分享了其他相關範疇的真知灼見，當中包括高效能源設計、運作上的過渡安排，以及數碼指揮塔技術的應用等。

Training on Design and Construction of Air Traffic Control Tower

In preparation for the design and construction of a new Air Traffic Control Tower (ATCT) in the Third-runway System Project, the division arranged overseas experts to conduct an in-house training course for colleagues from different divisions at the CAD headquarters during the period from 27 February to 3 March 2017. Apart from sharing knowledge and experience in ATCT design, construction, operations and maintenance, the overseas experts also shared insights in other related areas, including efficient energy design, operation transition arrangement, and application of digital tower technology, etc.



海外專家在民航處總部就指揮塔的設計提供內部培訓。
Overseas expert provided in-house ATCT design training at the CAD Headquarters.

衛星通訊、導航及監察/航管系統

為遵從國際民航組織的全球空中航行計劃，民航處已制定實施計劃，讓多項衛星通訊、導航及監察/航管系統和服務循序漸進地投入運作。當中，飛前放行指示雙向數據鏈路系統、電子飛行進程單系統和抵港航機排序系統在過去數年運作理想，為業界的營運帶來裨益。其他的最新發展概述如下：

Satellite-based CNS/ATM Systems

To comply with the ICAO Global Air Navigation Plan, CAD has formulated implementation plan and progressively put into operational use various satellite-based CNS/ATM systems and services. The Pre-Departure Clearance Two-way Datalink Service, the Electronic Flight Strip System and the Arrival Manager System have been in satisfactory operation for some years bringing operational benefits to aviation stakeholders. The latest development of the others is highlighted below:

(一) 航空電訊網、航空交通服務訊息處理系統和航空交通服務設施間數據通訊

按照國際民航組織亞太地區航空電訊網和航空交通服務訊息處理系統實施計劃，香港與澳門，以及香港與曼谷之間兩組新的電訊網和訊息處理系統已先後投入運作。香港現正與北京就新的電訊網和訊息處理系統進行進一步測試和試行，預期可於二零一八年投入運作。

航空交通服務設施間數據通訊已與新航管系統融合，成為該系統的其中一項功能，利用航空固定電訊網支援與三亞和台北以電子方式移交飛機，以加強飛行安全和促進運作效率。至於其他鄰近的空管中心，本處已於二零一六年四月與廣州和馬尼拉進行了初步的技術測試，並正在協調進一步測試和試行。

(二) 先進場面活動引導和控制系統

鑑於航空交通量持續增長及機場環境不斷改變，本處安排了系統供應商全面檢視先進場面活動引導和控制系統訊號的完整性和覆蓋範圍。根據檢視報告的建議，機場中場客運廊及機場北部已在二零一五年及二零一六年期間共增設八台外站單元機組，以增強系統訊號的覆蓋能力及提升系統容量，以配合即將進行的機場基建發展。此外，當局正考慮推展進一步的改善工程。

(三) 廣播式自動相關監察系統

在二零一六年十一月過渡至新航管系統後，廣播式自動相關監察已成為香港監察系統的主要組成部分，提供安全高效的航空交通管制服務。民航處根據國際民航組織的安全管理系統，採用分階段實施的方法管理風險，並確保廣播式自動相關監察能安全和順利地實施。自此，香港飛行情報區南部已採用該項技術保持飛機間距，以期逐步擴展技術的應用範圍，並計劃在所有相關安全風險評估工作圓滿結束後，於二零一七年下半年與新航管系統全面融合。

(i) Aeronautical Telecommunication Network, Air Traffic Services Message Handling System and Air Traffic Services Inter-facility Data Communication

In accordance with the ICAO Asia-Pacific Regional Aeronautical Telecommunication Network and Air Traffic Services Message Handling System Implementation Plan, two pairs of new circuits (i.e. Hong Kong – Macao and Hong Kong – Bangkok) have been commissioned for operational use. Further tests and trials on another new circuit with Beijing were being conducted with the planned operational use in 2018.

The Air Traffic Services Inter-facility Data Communication, being one of the functions integrated in the new ATMS, supports electronic transfer of aircraft with Sanya and Taipei to enhance flight safety and also operational efficiency through the Aeronautical Fixed Telecommunication Network. For other neighbouring ATC Centres, CAD has conducted initial technical tests with Guangzhou and Manila in April 2016. Further tests and trials are being coordinated.

(ii) Advanced Surface Movement Guidance and Control System

To cope with the continuous increase of air traffic and on-going changes in the airport environment, CAD has engaged the equipment supplier to conduct a comprehensive signal integrity and coverage study of the Advanced Surface Movement Guidance and Control System (A-SMGCS). In accordance with the recommendations of the study report, a total of eight A-SMGCS Remote Units had been installed at the Midfield Passenger Concourse and at the northern part of the airport during 2015 and 2016 to enhance the signal coverage performance and system capacity to cater for the forthcoming HKIA infrastructure development. Further improvements are being considered.

(iii) Automatic Dependent Surveillance-Broadcast System

With transition to the new ATMS in November 2016, Automatic Dependent Surveillance-Broadcast (ADS-B) has become an integral part of the Hong Kong's surveillance system for provision of safe and efficient air traffic control services. CAD has adopted a phased implementation approach, in accordance with the ICAO's Safety Management System, to manage the risks and ensure safe and smooth ADS-B implementation. Since then, ADS-B has been used for aircraft separation in the southern part of the Hong Kong Flight Information Region, with a plan to gradually expand for full integration with the new ATMS in the second half of 2017 after satisfactory completion of all the relevant safety risk assessments.

(四) 陸基增強系統

為了令採用全球衛星導航系統的飛機進場和着陸程序更為精確，民航處已就機場安裝陸基增強系統進行了初步的選址研究。本部結合了本處和地政總署設於全港各處的全球衛星導航系統監測站所收集到的實時數據，設立全港衛星數據庫。此外，本處自二零一三年起使用電離層閃爍監測系統，並通過國際民航組織電離層研究專責小組與周邊地區合作，共同研究電離層對亞太地區陸基增強系統性能所可能產生的影響，以及區內應用該系統所須採取的安全緩解措施。二零一六年九月，國際民航組織採納了電離層研究專責小組為亞太地區研發的陸基增強系統電離層威脅模型。

(五) 機場協同決策

民航處在二零一三年成功推出桌面版及手機版的機場協同決策互聯網平台，該平台一直獲航空業界大力支持，成績令人鼓舞。在這個卓有成效的基礎上，香港機場管理局已進一步增強和擴展機場協同決策計劃。民航處會繼續全力支持，並在技術和運作方面提供意見，以提升香港國際機場的運作效率。

航空交通安全電子設備人員的培訓及評核

國際民航組織自二零一一年公布《航空交通安全電子設備人員培訓手冊》（第7192號文件），支持「下一代航空專業人員」計劃後，在二零一六年就《空中航行服務程序—培訓》文件發布了數項修訂，在飛行員和空管人員以外，加入了電子設備人員的培訓規定。有關修訂推廣以技能為本的培訓發展模式，並就使用技能框架培養電子設備人員的建議，提供更詳盡的細節。此外，本部

(iv) Ground-Based Augmentation System

To augment the precision of aircraft approach and landing operations using the Global Navigation Satellite System (GNSS), CAD has conducted a preliminary siting study in preparation for installing a Ground-Based Augmentation System (GBAS) at HKIA. A territory-wide satellite database was established by combining the real time data collected by CAD's and Lands Department's GNSS monitoring stations located around the territory. Moreover, CAD has commenced using an Ionospheric Scintillation System since 2013, which enabled the collaboration with neighbouring areas through the ICAO Ionospheric Studies Task Force on studying the possible ionospheric effect on GBAS performance and the necessary safety mitigating measures for deploying GBAS in the Asia Pacific region. The ICAO has adopted the GBAS Ionospheric Threat Model for the region developed by the Task Force in September 2016.

(v) Airport Collaborative Decision Making

CAD successfully launched the Airport Collaborative Decision Making (A-CDM) platform in both desktop and mobile versions on the Internet back in 2013 with very encouraging feedback and support from the aviation industry. Building on the sound implementation of the CAD's A-CDM platform, the Airport Authority Hong Kong has further enhanced and extended the A-CDM programme. CAD would continue to fully support and provide advice on technical and operation aspects for enhancing the overall HKIA's operational efficiency.

Air Traffic Safety Electronics Personnel Training and Assessment

Further to the publication of the Air Traffic Safety Electronics Personnel (ATSEP) Training Manual Doc 7192 in 2011 for supporting the Next Generation of Aviation Professionals initiatives, ICAO has released several revisions of the Procedures for Air Navigation Services – Training in 2016 which included the training requirements for ATSEP in addition to pilots and air traffic controllers. These editions promote the development of competency-based training and recommend the use of a competency framework for training of electronics personnel with more details. In addition, a gap analysis was conducted against the new guidance document from

根據國際民航組織的新指引文件，就電子設備人員以技能為本的培訓及評核進行了差距分析。民航處會繼續留意及採納與電子設備人員有關的國際規定，進一步提升航空安全水平。

更換空管系統項目的第二期計劃

新空管中心於二零一六年十一月投入服務，標誌着更換空管系統項目的第一期工作已順利完成。本處隨即籌劃項目的第二期計劃，在空管大樓的舊空管中心和南指揮塔安裝新的空管設備。本處在二零一六年一月成立了空管大樓和南指揮塔翻新工作專責小組，成員包括民航處、建築署、機電工程署和香港天文台的代表，以及民航處的系統保養承包商，以督導各個項目的整體協調工作，當中包括屋宇翻新和維修工程項目、更換屋宇服務設施，以及安裝和測試新空管系統。

資訊科技管理

通過妥善實施各項新的資訊科技措施和「電子政府」策略，資訊科技管理組繼續支援各分部的日常運作。年內，該組完成了以下大型資訊科技項目，以加強資訊科技服務和支援：

(一) 二零一六年十月，資訊科技管理組成功通過由國際認可的認證機構進行的ISO 9001:2008品質管理重新認證審計。這是自二零一零年以來，該組第三次成功更新ISO 9001:2008的認證。

(二) 年內，資訊科技管理組設計和開發了一個具有文件控制、分發和管理功能的網絡應用系統，方便民航處各分部更有效地共用航空安全的相關文件。

ICAO regarding the ATSEP competency-based training and assessment. CAD will continuously monitor and adopt the relevant international requirements on ATSEP to enhance aviation safety.

Phase 2 Programme of ATC System Replacement Project

The commissioning of the new ATC Centre in November 2016 marked the successful completion of the Phase 1 work of the ATC System Replacement Project. CAD has proceeded with planning for the Phase 2 Programme of the project, in which new ATC equipment would be installed in the old ATC Centre and South Tower (S-TWR) at the Air Traffic Control Complex (ATCX). CAD has established the ATCX and S-TWR Refurbishments Task Force in January 2016, with members from CAD, Architectural Services Department, Electrical and Mechanical Services Department, Hong Kong Observatory and CAD's system maintenance contractor, to steer the overall coordination of various works items on building refurbishments and repairs, building services facilities replacement, and new ATC systems installation and testing, etc.

Information Technology Management

The Information Technology Management Unit (ITMU) continued to support the day-to-day operations of various divisions through effective implementation of new Information Technology (IT) initiatives and the e-Government strategy. During the year, the following major IT projects were completed for the betterment of IT service and support:

(i) In October 2016, ITMU successfully passed the ISO 9001:2008 quality management re-certification audit conducted by an internationally recognised certification body. This has been the third successful renewal of its ISO 9001:2008 certification since year 2010.

(ii) ITMU designed and developed a web application system with document control, distribution and management functions to facilitate more effective sharing of aviation safety related documents among various divisions in the department.



飛行標準及適航

Flight Standards and Airworthiness

飛行標準及適航部負責簽發航空運輸企業營運人許可證(航空營運人許可證)，以及在發出許可證後監察所有持證公司的運作，確保這些公司遵守國際民用航空組織(國際民航組織)所訂定有關飛行安全及適航的標準和建議措施。

The Flight Standards and Airworthiness Division (FSAD) is responsible for the grant of Air Operator's Certificate (AOC) and the subsequent monitoring of all AOC holders to ensure their compliance with the Standards and Recommended Practices of the International Civil Aviation Organization (ICAO) on flight safety and airworthiness.



飛行標準及適航

Flight Standards and Airworthiness

民航處人員在航機起飛前進行審核。

CAD officer conducts an in-flight check before departure.



本部的其他職責包括簽發空勤人員和飛機維修執照，監察在香港登記的飛機的適航標準和維修水平，巡查飛機維修機構，監督輕型飛機和直升機的運作，以及監察外地航空公司在香港國際機場運作的安全水平。

Other functions of the division include the issue of flight crew and aircraft maintenance licences, monitoring of airworthiness and maintenance standards of aircraft registered in Hong Kong, inspection of aircraft maintenance organisations, supervision of light aircraft and helicopter operations, and safety oversight of foreign airline operators at Hong Kong International Airport (HKIA).

飛行標準組

簽發和續發航空營運人許可證

截至二零一七年三月三十一日，獲民航處簽發航空營運人許可證的本地公司有十家，計為：

FLIGHT STANDARDS OFFICE

Issue and Renewal of AOC

As of 31 March 2017, there were ten Hong Kong AOC holders, namely:

香港華民航空有限公司(華民航空)	AHK Air Hong Kong Limited (AHK)
國泰航空有限公司(國泰航空)	Cathay Pacific Airways Limited (CPA)
直升機服務(香港)有限公司(直升機服務)	Heliservices (Hong Kong) Limited (HLS)
香港航空有限公司(香港航空)	Hong Kong Airlines Limited (CRK)
香港航空公務機管理有限公司(香港商務航空)	Hong Kong Airlines Corporate Jet Management Limited (HKJ)
港龍航空有限公司(港龍航空)	Hong Kong Dragon Airlines Limited (HDA)
香港快運航空有限公司(香港快運)	Hong Kong Express Airways Limited (HKE)
美捷香港商用飛機有限公司(香港商用飛機)	Metrojet Limited (MTJ)
空中快線直升機有限公司(空中快線)	Sky Shuttle Helicopters Limited (EMU)
TAG Aviation Asia Limited (TBJ)	TAG Aviation Asia Limited (TBJ)

年內，本部藉着全面巡查和審查，繼續監察本地航空營運人許可證持證公司的安全表現和營運水平。飛行標準組巡查人員執行了130次飛行和機艙安全檢查，並對航空營運人許可證持證公司作出共402次其他巡查，包括外站巡查、停機坪巡查、檢查運作記錄、視察訓練情況和審批核准考核人員。本部也按照檢查程序，評審和視察本港航空公司所使用的48台位於海外和香港的飛行模擬器，並重新簽發使用許可。此外，本部又負責監察政府飛行服務隊直升機和定翼機的運作情況。

安全監督

本部繼續對香港的航空營運人許可證持證公司實施安全監察計劃。計劃的主要目的，是利用風險管理模式編排和統籌各項審查工作。

另外，本部年內接獲航空業界821份強制呈報事故報告，並與各航空公司、維修機構、機場經營人和航空交通服務機構保持緊密聯繫，調查和跟進所有強制呈報的事故，務求改善航空安全，防止同類事故再次發生。

During the year, the safety performance and operating standards of Hong Kong AOC holders were monitored through a comprehensive programme of inspections and audits. In addition to 130 flight operations and cabin safety inspections, the Inspectorate staff of the Flight Standards Office conducted 402 other inspections on the AOC holders, including station inspections, ramp inspections, operational record inspections, training inspections and approval of authorised examiners. Forty-eight flight simulators located worldwide and in Hong Kong and used by local airlines were evaluated, inspected and reapproved for use in accordance with the inspection procedures. The division was also tasked with the responsibility of monitoring helicopter and fixed-wing aircraft operations of the Government Flying Service (GFS).

Safety Oversight

FSAD continued to implement the surveillance programme for the safety oversight of Hong Kong AOC holders. The key purpose of the programme is to apply a risk management approach to the schedule and coordination of inspection activities.

Also, a total of 821 Mandatory Occurrence Reports (MOR) from the industry were received during the year. Through close liaison with airline operators, maintenance organisations, aerodrome operator and air traffic service provider, all MORs were investigated for the purpose of enhancing aviation safety and preventing recurrence.



民航處人員進行直升機檢查。
CAD officer conducts an inspection on helicopter operations.

適航事務組

適航事務組監察所有在香港登記的飛機的維修和適航標準。該組的適航主任經驗豐富，定期審查本港航空公司的飛行站，又定期審查認可的維修和設計/生產機構，以及在香港、內地、中東、印度、亞洲其他地方、歐洲和北美洲各地城市檢查飛機，以持續監察航空營運人許可證持證公司、批核認可的維修和設計/生產機構，以及為在香港登記的飛機簽發或續發適航證。

飛機維修

適航事務組繼續通過機庫檢查、公司運作審查和產品審查，定期監察所有香港認可的飛機維修和飛機部件維修機構。截至二零一七年三月三十一日，共有31家公司取得香港認可維修機構的資格。適航事務組藉持續審查和定期視察，監察多家主要維修公司，包括香港飛機工程有限公司、香港航空發動機維修服務有限公司和廈門太古飛機工程有限公司。

AIRWORTHINESS OFFICE

The Airworthiness Office monitors the maintenance and airworthiness standards of all Hong Kong registered aircraft. With a team of experienced Airworthiness Officers, the office carries out regular AOC line station audits, approved maintenance and design/production organisation audits, and aircraft surveys locally in Hong Kong as well as in cities in the Mainland, Middle East, India, other parts of Asia, Europe and North America, for the purpose of continual monitoring of AOC holders, approval of maintenance and design/production organisations, and the issue and renewal of Certificates of Airworthiness for Hong Kong registered aircraft.

Aircraft Maintenance

The Airworthiness Office continued to monitor all Hong Kong approved aircraft and aircraft component maintenance organisations regularly through hangar surveys, company audits and product audits. As of 31 March 2017, there were 31 Hong Kong approved maintenance organisations. Major maintenance companies, including Hong Kong Aircraft Engineering Company Limited (HAECO), Hong Kong Aero Engine Services Limited, and Taikoo (Xiamen) Aircraft Engineering Company Limited, are regulated through rolling audits and regular visits.



飛機維修訓練

截至二零一七年三月三十一日，本港和內地共有五家維修訓練機構獲發《香港航空要求—147》許可證，可以就維修香港登記的飛機舉辦基本和指定飛機機種的維修訓練課程。

飛機和相關產品/零件的設計與生產

截至二零一七年三月三十一日，共有十一家設計和生產機構獲發《香港航空要求—21》許可證，可以審定飛機相關產品/零件，包括這些產品/零件的設計與生產。

Aircraft Maintenance Training

As of 31 March 2017, there were five HKAR-147 Aircraft Maintenance Training Organisations located in Hong Kong and the Mainland which were approved to provide basic and specific aircraft type training for the maintenance of Hong Kong registered aircraft.

Design and Production of Aircraft and Related Products/Parts

As of 31 March 2017, eleven HKAR-21 Design and Production Organisations were approved to provide certification of aircraft related products/parts including their design and production.



民航處人員在發動機維修機構進行審核及檢查。

CAD officers conduct audit and inspection at engine repair facilities.



民航處指定認證機構

截至二零一七年三月三十一日，共有七家機構獲發《香港航空要求—183》許可證，可以就簽發飛機適航證進行相關認證工作。

適航事務組統計數字

(二零一六年四月一日至二零一七年三月三十一日)

CAD Designated Organisations

As of 31 March 2017, there were seven HKAR-183 Organisations approved to carry out airworthiness related activities in support of the issue of Certificates of Airworthiness to aircraft.

Airworthiness Office Statistics

(between 1 April 2016 and 31 March 2017)



民航處人員進行例行飛機檢查。
CAD officer conducts a routine aircraft survey.



民航處人員檢查安全儀器。
CAD officer conducts an inspection on safety equipment.

航空人員執照事務組

空勤人員執照

二零一六至一七年度，航空人員執照事務組（執照事務組）共處理了4 099份申請，當中包括首次簽發和續期簽發空勤人員執照、審定可駕駛的飛機型號和儀表飛行等級、英語能力認證和轉換海外執照為香港執照。為配合業界的需求，民航處分別核准澳洲和新西蘭的飛行培訓機構，為空勤人員提供海外培訓及考試。年內，執照事務組、澳洲和新西蘭的飛行培訓機構共批閱了4 726份空勤人員執照筆試試卷。此外，又向香港空勤人員執照或航空交通管制執照持有人/申請人簽發共5 518份體檢合格證明書。

飛機維修執照

截至二零一七年三月三十一日，執照事務組共處理了794份首次簽發飛機維修執照、執照續期和加簽可維修飛機機種的申請。年內，該組和香港飛機工程有限公司設於將軍澳和廈門的認可考試中心，共處理了3 448份飛機維修執照試卷。

PERSONNEL LICENSING OFFICE

Flight Crew Licensing

During 2016-17, the Personnel Licensing Office (PELO) processed 4 099 applications, including initial grant and renewal of flight crew licences, aircraft and instrument ratings, language proficiency endorsements and conversion of foreign flight crew licences into Hong Kong licences. To meet industry demand for conducting overseas flight crew training and examinations, CAD approved Flying Training Organisations based in Australia and New Zealand respectively. During the year, PELO and the authorised examination centres in Australia and New Zealand processed 4 726 CAD flight crew licensing written examinations. In addition, 5 518 medical certificates were issued to holders/applicants of Hong Kong flight crew licence or air traffic controller's licence.

Aircraft Maintenance Licensing

As of 31 March 2017, PELO processed 794 applications for initial issue and renewal of aircraft maintenance licences, and endorsement of additional aircraft types in such licences. During the report period, 3 448 examination papers regarding aircraft maintenance licensing were processed by PELO and the authorised examination centre at HAECO in Tseung Kwan O and Xiamen.

協調本地空域使用者

為加強航空安全，由本地空域使用者組成的香港非控制區飛行安全小組繼續定期召開會議，協調香港空域的安全事宜。這些本地空域使用者包括使用定翼機和旋翼機的機構（政府飛行服務隊、中國人民解放軍駐香港部隊、空中快線、直升機服務和香港飛行總會）、香港滑翔傘協會，以及私人飛機擁有人。

飛機登記

年內，香港民用航空器登記冊共新增了29架航空器，同期另有七架波音B747型飛機、三架空中巴士A340型飛機、一架灣流G550型飛機、一架龐巴迪環球快車型飛機、一架賽斯納172P型飛機、一架羅賓遜R22直升機和一架Van's RV-8型飛機取消登記。截至二零一七年三月三十一日，香港民用航空器登記冊一共登記了326架民用飛機，當中288架由香港的航空營運人許可證持證公司和政府飛行服務隊擁有，詳情如下：

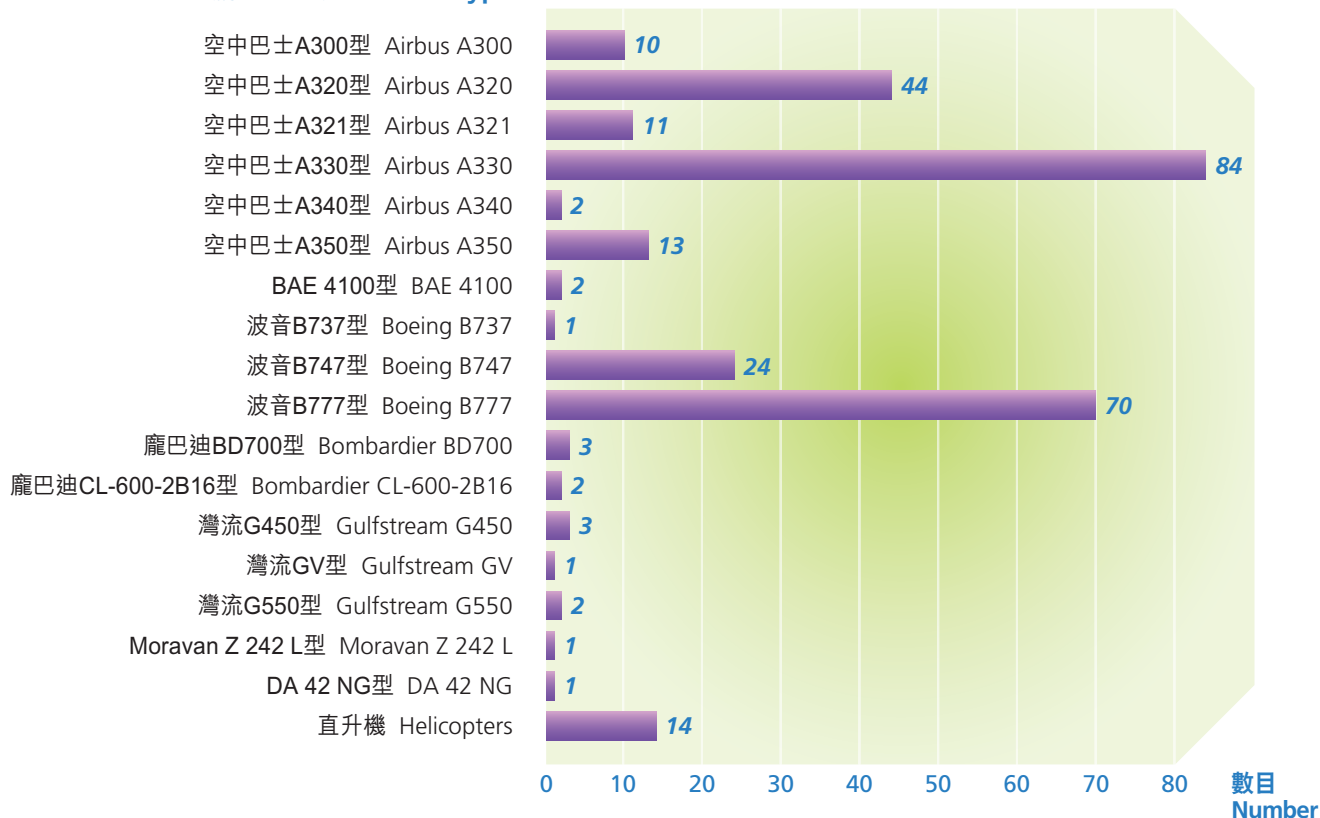
COORDINATION WITH LOCAL AIRSPACE USERS

To promote flight safety, the Hong Kong Sector Flight Safety Committee comprising local airspace users continued to meet regularly to coordinate safety issues in the local airspace. These local airspace users include fixed wing operators and rotary wing operators (GFS, Hong Kong Garrison of the People's Liberation Army, EMU, HLS and Hong Kong Aviation Club), Hong Kong Paragliding Association and private aircraft owners.

AIRCRAFT REGISTER

During the year, 29 aircraft were put on the Hong Kong Civil Aircraft Register. In the same period, seven Boeing B747, three Airbus A340, one Gulfstream G550, one Bombardier Global Express, one Cessna 172P, one Robinson R22 and one Van's RV-8 were removed from the Register. As of 31 March 2017, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 326, of which 288 were registered under Hong Kong AOC holders and the GFS as follows:

航空器型號 Aircraft Type



持續訓練巡查人員

為確保巡查人員的專業知識和能力與時並進，本部安排同事接受各項飛行運作和適航事宜的訓練，範疇包括個別型號飛機和物料的設計及維修、飛行模擬器評審、各式運作的審批、審查技巧，以至安全管理訓練。此外，他們也參與國際和地區會議、研討會和工作組會議，與國際專家交流，分享經驗和良好的作業方式。這些國際會議包括國際民航組織就以下議題所舉行的會議/研討會：遙控航空器系統、亞太地區航空安全小組會議和安全管理國際合作組會議。此外，本部人員又參加了歐洲航空安全局/美國聯邦航空局國際安全會議、以風險為本的型號合格審定工作坊、新飛機型號的合格審定和維修審查委員會的會議，以及各地民航當局舉辦的會議等。

CONTINUOUS TRAINING FOR INSPECTING STAFF

To maintain the technical knowledge and competence of inspecting officers in pace with the latest aviation development, the division arranged a wide spectrum of training for them on flight operations and airworthiness matters. These included training in the design and maintenance of specific types of aircraft and materials, simulator evaluation, operational approvals, auditing techniques as well as safety management. In addition, the officers participated in international and regional conferences, seminars and working group meetings to exchange and share experiences and best practices with international experts. These international events included ICAO conferences/seminars on the Remotely Piloted Aircraft Systems, Asia Pacific Regional Aviation Safety Team Meeting, Safety Management International Collaboration Group Meeting; European Aviation Safety Agency – Federal Aviation Administration International Safety Conference, Risk Based Type Certification Workshop; and Certification and Maintenance Review Board of some new aircraft types and meetings with various aviation authorities.



民航處人員為業內人士舉辦規例及要求的簡佈會。
CAD officer delivers a briefing to industry partners on regulations and requirements.

由航空人員執照事務組簽發的空勤人員執照及飛機維修執照。
Flight crew licences and aircraft maintenance licence issued by the Personnel Licensing Office.



機場安全標準

Airport Standards

機場安全標準部負責監管機場安全、航空保安、障礙物管制和空運危險品的工作。本部也負責促進直升機場的發展，監察直升機場的運作安全和保安水平，制定和執行飛機噪音消減措施，評核及跟進香港國際機場三跑道系統擴建工程的相關發展項目，並肩負協調機場簡化手續的任務。

The Airport Standards Division (APSD) is responsible for the regulatory functions in respect of airport safety, aviation security, control of obstructions and the safe transport of dangerous goods by air. The division also facilitates the development of heliports, monitors the safety and security of heliport operations, develops and implements noise mitigating measures, assesses and monitors the development of Hong Kong International Airport (HKIA) expansion including the 3-Runway System (3RS), and assumes the role in coordinating airport facilitation.





機場安全標準

Airport Standards

機場安全

簽發機場牌照

香港機場管理局(機管局)獲民航處簽發機場牌照，營運香港國際機場。機場安全標準部繼續執行對機管局的安全監督，以確保該局的表現符合《機場牌照發牌規定文件》的規定。

為確保機場持續符合機場牌照發牌規定，本部在年內進行了14次審計和131次巡查，範圍包括機場限制區內的臨時和定期維修工程、飛行區路面狀況、目視助航設備、飛機運作所需的其他設施、安全管理系統的實施、緊急應變計劃、機場救援和滅火服務、由機管局和地勤服務公司為飛機提供的地面支援服務，以及飛行區擴建項目。本部也參與機管局對機場特許經營公司進行的審計，並監察機管局對飛機地面事故的調查工作，以確保機管局有效地監督各機場特許經營公司的安全表現，以及確定相關各方已採取適當改善措施，防止同類事故重演。

機管局繼續在飛行區以混凝土和瀝青取代路磚，重鋪北客運廊及西北客運廊的停機位。整項重鋪工程計劃預計於二零一八年五月完成。至於為飛行區內的引導標誌，更換燈箱的計劃，機管局需更多時間測試擬採用的發光二極管燈箱，並決定延至二零一九年才完成把現有的熒光燈管燈箱更換為發光二極管燈箱的工作。

AIRPORT SAFETY

Aerodrome Licensing

Airport Authority Hong Kong (AAHK) is granted an aerodrome licence by CAD to operate HKIA. APSD continued to exercise safety oversight on the performance of AAHK to ensure its compliance with the requirements stipulated in the Aerodrome Licensing Requirements Document.

To ensure HKIA's continued compliance with the aerodrome licensing requirements, the division carried out 14 audits and 131 inspections during the year covering both ad-hoc and scheduled airside maintenance works, conditions of airfield pavements, visual aids, other facilities required for aircraft operations, implementation of the Safety Management System, emergency planning, airport rescue and fire fighting services, aircraft ground operations provided by AAHK and its ground handling agents as well as airfield expansion projects. The division also participated in the franchisee audits carried out by AAHK and monitored AAHK's investigation of aircraft ground incidents to ensure that effective oversight was exercised by AAHK on franchisees' safety performance and appropriate remedial measures had been taken by relevant parties to prevent recurrence.

AAHK continued the works to replace the block pavement with concrete and asphalt at the parking stands in the North and Northwest Concourse. The whole project was scheduled for completion by May 2018. Regarding the replacement of the fluorescent lighting boxes of the Movement Area Guidance Signs, due to the extension of the trial period of the substitute LED lighting boxes, AAHK re-scheduled the completion of the replacement works to 2019.



此外，機管局在飛行區展開了多項工程，以進一步提升機場運作的安全及效率。工程之一是刨鋪北跑道，而另一工程是向南延長N滑行道以連接J滑行道。這二項工程分別預計於二零一七年十月及同年九月完成。另一方面，隨着在香港國際機場升降的波音B747-8F型貨機數目顯著增加，機管局在貨運停機坪進行一項工程，改建六個貨機停機位，供波音B747-8F型貨機停泊。這項改建工程預計在二零一八年年初完成。本部會持續監察上述各項工程，確保飛行區安全運作，不受影響。

為應付航班持續增長，機管局繼續積極確保機場中場範圍發展計劃如期進行。機管局於二零一六年開展中場範圍第二期工程，預計於二零一七年第二季起分階段啟用。第二期發展計劃將提供一條滑行道及十個遠方停機位，當中有三個更可容納基準代字為F的飛機。

為應付商務飛機對停機位的殷切需求，機管局將N滑行道已停用的部分改為臨時停機區，並可容納20架灣流G650型或其他較小型的飛機。在新設施啟用前，本部已確定這些設施符合機場牌照發牌規定，以及機管局已制定所有相關程序。

臨時停機區於二零一六年十一月啟用，可供20架灣流G650型或其他較小型的飛機停泊。

Temporary parking area was commissioned in November 2016, accommodating the parking of 20 aircraft up to the dimensions of Gulfstream G650.

In addition, AAHK launched a number of airfield projects during the year to further raise the safety and efficiency of airport operations. The major projects included the resurfacing of the North Runway and the south extension of Taxiway N to connect to Taxiway J. These two projects would be completed in October and September 2017 respectively. Besides, in view of the increasing number of Boeing B747-8F freighters operating at HKIA, AAHK embarked on a project to modify six parking stands at Cargo Apron to accommodate these aircraft. The modification works would be completed in early 2018. The division will continue to monitor these works to ensure that the safety of the airfield operations would not be compromised.

To cater for the continuous traffic growth, AAHK continued to ensure that the development of the Midfield Area of HKIA proceeded as scheduled. Launched in 2016, Midfield Development Phase Two was scheduled for commissioning in phases starting from the second quarter of 2017. Phase Two will provide a new taxiway and 10 additional remote parking stands, including three being capable of accommodating Code F aircraft.

To meet the increasing demand of business jet parking, AAHK converted the decommissioned portion of Taxiway N into a new temporary parking area, with an addition of 20 parking positions available for aircraft up to the dimensions of Gulfstream G650. Prior to commissioning, APSD had ensured that the new facilities were in compliance with the aerodrome licensing requirements and that AAHK had established all the relevant procedures.



為測試緊急應變程序，以及加強機場營運者與各個相關應變單位在處理飛機意外時的協調能力，機管局於年內舉行了多次緊急應變演習。本部一直積極參與籌劃，並定期視察這些演習，其中一次是於二零一六年十月十九日舉行的年度大型飛機意外救援演習。是次演習模擬一架抵港的空中巴士A330型客機，在降落後未能在中場客運大樓停機位的指定位置停下，撞上登機橋，引致航機起火。不同應變單位，包括機管局、政府相關部門和航空公司，均參與演習，以測試各單位處理飛機事故的緊急程序和應變能力。從籌備至完成演習，本部一直監察各階段的進展，並提出意見和建議，讓機管局和相關應變單位進一步改善緊急程序和提高應變能力。

機場安全標準部繼續監察機管局，確保其安全管理工作遵行國際民用航空組織(國際民航組織)的標準和建議措施。年內，機管局設立了一個風險評估持續記錄系統，記錄飛行區內因新程序和發展計劃引致運作環境轉變而衍生的風險。本部不時就記錄提出意見，讓機管局跟進。

For the purpose of testing the emergency response procedures and enhancing the coordination between the aerodrome operator and relevant responding parties in dealing with aircraft accidents, AAHK conducted a number of drills and exercises throughout the year. APSD actively participated in the planning meetings and conducted regular inspections on these drills and exercises. One of them was the annual full-scale aircraft crash exercise conducted on 19 October 2016. The exercise simulated a rescue operation for an arrival Airbus A330 aircraft which failed to stop at its designated position and crashed into the airbridge of a parking stand at the Midfield Concourse and caught fire. Different responding parties, including AAHK, relevant government departments and the participating airline, took part in the exercise to test the emergency procedures and responses in dealing with an aircraft accident. The division oversaw the preparation and operation of the exercise from planning until completion and provided comments and recommendations for AAHK and relevant responding parties to further enhance their emergency procedures and responses.

APSD continued to monitor AAHK's aerodrome safety management activities to ensure compliance with the International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPs). During the year, AAHK set up an ongoing risk assessment register for new airfield procedures and development projects to record any risk arising from the changes to existing operational environment. The division provided feedback on the maintenance of the register for follow up actions by AAHK.

年度大型飛機意外救援演習於二零一六年十月十九日舉行。

A full-scale annual aircraft crash exercise was conducted on 19 October 2016.



安全監督

直升機場的運作和發展

機場安全標準部繼續監察直升機場的運作安全，並就規劃和設計區內直升機場，以及發展跨境直升機場，提供意見。

管制障礙物

民航處制定機場高度限制，以保障飛機航道及無線電導航儀器不受障礙物影響。本部審核了多項建築和發展計劃及可行性研究，並提供意見，確保各個項目均符合機場高度限制和其他航空安全規定。年內，經本部審核的大型項目和研究，在機場範圍以外的有港珠澳大橋工程的香港口岸和香港接線、港珠澳大橋香港口岸上蓋發展、屯門至赤鱸角連接路，以及東涌新市鎮擴展研究。在機場範圍內的大型項目，則包括中場餘下範圍的發展計劃、機場北商業區發展計劃，以及擴建機場成為三跑道系統的填海工程。此外，在機管局籌劃擴建機場成為三跑道系統的工程項目方面，本部就擴建機場後的機場高度限制和相關的海上限制區，積極提供意見，以確保新航道安全。

SAFETY REGULATION

Heliport Operations and Development

APSD continued to monitor the safety of heliport operations and to provide advice on the planning and design of the domestic heliports as well as on the development of cross-boundary heliports.

Control of Obstructions

Airport Height Restrictions (AHR) are established to protect aircraft flight paths and radio navigational aids. APSD assessed and provided advice on various building and development projects and feasibility studies to ensure their compliance with AHR and other applicable aviation safety requirements. The major projects and studies outside HKIA assessed during the year included the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) and the Hong Kong Link Road (HKLR), the Topside Development of the HKBCF, the Tuen Mun-Chek Lap Kok Link (TM-CLKL) and the Tung Chung New Town Extension. The major projects within HKIA assessed included HKIA's Midfield Remaining Area Development, North Commercial District Development and Reclamation for the Expansion of HKIA into a 3RS. In addition, regarding the project to expand HKIA into a 3RS planned by AAHK, the division provided advice on AHR requirements and the associated Marine Exclusion Zones (MEZs) for an expanded airport system in order to ensure aviation safety of the new flight paths.



港珠澳大橋香港口岸、香港接線和屯門至赤鱘角連接路的填海及建築工程在二零一六年繼續進行，擴建機場成為三跑道系統的填海工程於二零一六年八月開展，承建商必須於機場周邊水域調派大量工作船。由於這些重要工程的工地位置靠近機場，並在兩條跑道的航道之下，為了確保飛機的安全和避免機場運作受到建築工程干擾，本部主動要求這些工程的項目顧問和承建商使用船舶/機械高度監測系統。該系統全日24小時運作，監測在機場附近填海及工地位置工作的船隻/機械的最高高度，以監督承建商遵守機場高度限制的規定。這項安排對本部考慮是否臨時批准高身船隻豁免遵守機場高度限制的申請，尤其重要。本部也密切監察承建商在遵守機場高度限制方面的表現，並視乎需要要求承建商採取改善措施。本部亦會不時與相關工程的項目顧問和承建商會面，就建築工程(包括工程期間所需要使用的建築工具)提供意見，以確保承建商遵守機場高度限制的規定。

As the reclamation works and construction works at the waters around HKIA for the HKBCF, the HKLR and TM-CLKL proceeded in 2016, and the reclamation works to expand HKIA into a 3RS commenced in August 2016, a large number of working vessels were deployed by contractors to work in close proximity to HKIA under the flight paths of the two-runway airport. To ensure aircraft safety and avoid any disruption to airport operations due to construction works of these strategic projects, APSD took a proactive approach to require the project consultants and contractors to commission a vessel/machinery height monitoring system. It was designed to operate around the clock for monitoring the highest altitude of vessels/machinery working at the reclamation and work sites near HKIA and enhancing the contractor's compliance with the AHR requirements. This arrangement was particularly important for the division's consideration of applications for AHR exemption involving high air draft vessels. The performance of the contractors in complying with the AHR requirements was also closely monitored by staff of the division who would require remedial actions from the contractors as and when necessary. The division also participated in various meetings with the project consultants and contractors, and offered advice from time to time to ensure the construction methods including the choice of construction plants would fully comply with the AHR requirements.

機場安全標準部人員監察機場一輛新消防車的實地測試。
APSD officers monitor the on-site test of a new fire engine of the Airport.



年內，本部共批准了146宗臨時豁免遵守機場高度限制的申請，以方便在香港境內進行建築工程及機場島附近的海事運作，當中84宗涉及港珠澳大橋香港口岸和香港接線的工程，36宗涉及擴建機場成為三跑道系統的填海工程。

本部得到海事處通力協助，繼續盡力防止船隻駛進機場島附近的海上限制區，以免航機和無線電導航儀器運作受到干擾。年內，海事處針對非法闖入限制區的事件，共提出了九次檢控。

香港國際機場擴展至三跑道系統的運作

香港機場管理局就擴建機場成為三跑道系統的工程項目正進行詳細設計及施工，機場安全標準部會監察擴建機場成為三跑道系統的工程項目，確保工程符合國際民航組織的相關機場要求。此外，本部亦跟香港機場管理局及其他政府部門緊密工作，為三跑道系統制定機場高度限制及機場附近水域的航行管制，以確保將來的三跑道系統安全運作。

This year, the division issued 146 temporary AHR exemptions to facilitate construction works in the territory and vessel operations in the vicinity of the Airport Island, of which 84 were issued to facilitate the works of the HKBCF and HKLR projects and 36 to facilitate the reclamation works for the expansion of HKIA into a 3RS.

With the assistance of the Marine Department, APSD continued to ensure the integrity of the MEZs established in the vicinity of the Airport Island to safeguard the operation of aircraft and radio navigational aids. During the year, nine prosecutions against illegal entry into the MEZs were instituted by the Marine Department.

HKIA Expansion into 3RS Operations

While AAHK is pursuing the detailed design and commissioning of HKIA expansion into 3RS operations, APSD has undertaken the oversight of the airport expansion to ensure that the 3RS related works projects are in full compliance with the relevant ICAO requirements on aerodrome. The division also worked closely with AAHK and other government departments to formulate the expanded AHR requirements and associated regulation of marine traffic for the purpose of safeguarding the future 3RS operations.



禁止使用會危害飛機航行的燈光

為確保航空安全不受威脅，本部繼續監察各類激光、探射燈和煙花表演，如「幻彩詠香江」燈光匯演、農曆新年煙花匯演等，以及大廈外牆的燈光，尤其是有照明的廣告招牌，並提供意見。

一般飛行活動

本部繼續規管康樂飛行活動，包括滑翔傘、風箏、模型飛機等，確保這些活動在符合飛行安全規例的情況下進行，而且不會影響民航飛機的運作。

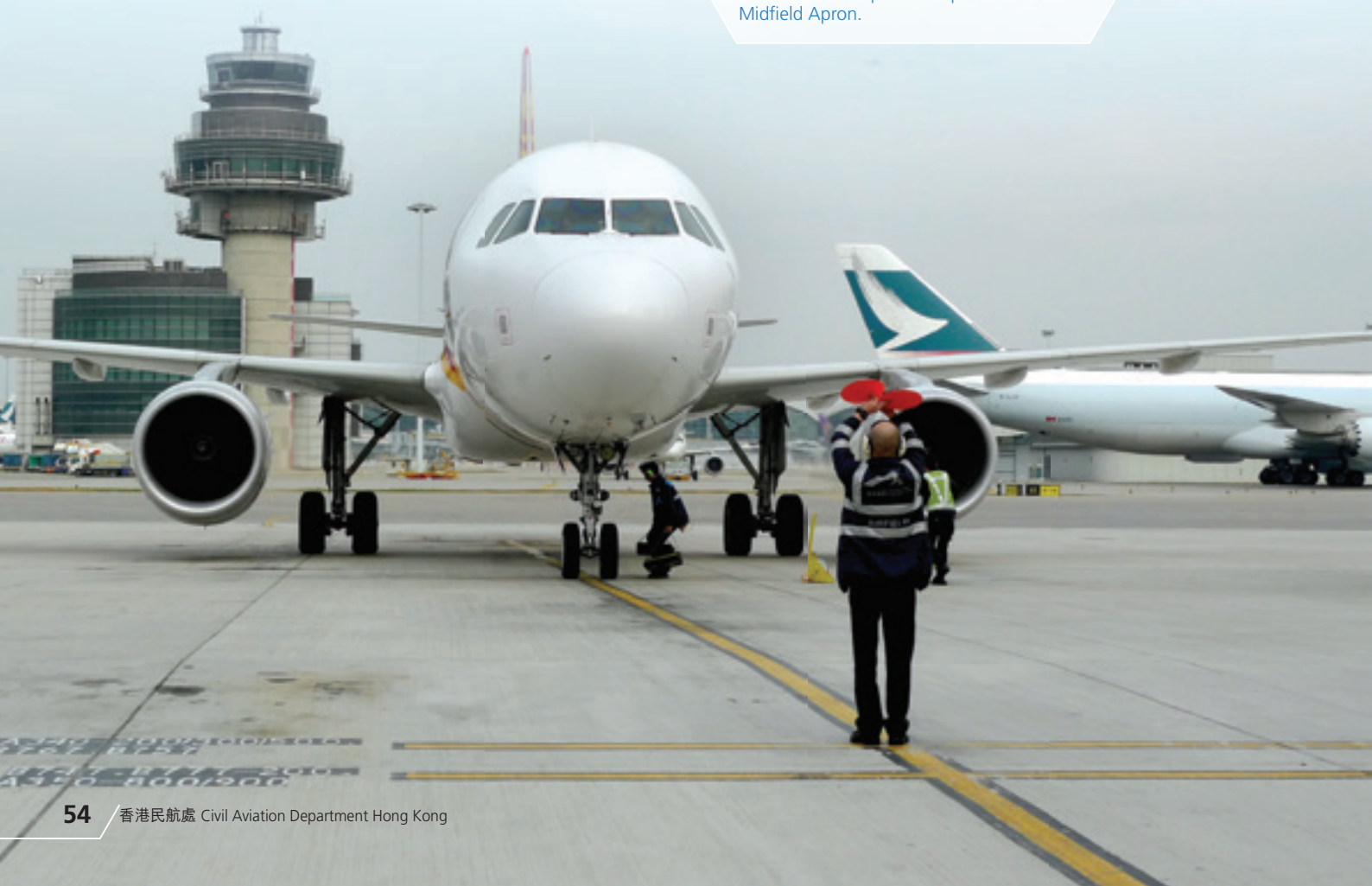
Prohibition of Lights Endangering Aircraft Operation

To ensure that aviation safety would not be compromised, APSD continued to monitor and give advice on the use of lasers, search lights and firework displays at different shows such as "A Symphony of Lights", the Chinese New Year Firework Displays as well as other lighting displays at building facades, especially illuminated advertisement signs.

General Aviation Activities

APSD continued to monitor the safety of recreational aviation activities, including paragliding, kite flying and model aircraft flying to ensure that these activities were conducted in compliance with applicable aviation safety regulations and would not affect civil aircraft operations.

機場安全標準部人員檢查中場停機坪的運作。
APSD officers inspect the operations of the Midfield Apron.



運載危險品

機場安全標準部的危險品事務組根據國際民航組織和本地法例的規定，監管空運危險品。危險品事務組設立了一套危險品許可證制度，航空公司若能符合所有相關的安全規定，可獲發運載危險品進出或飛越香港的許可證。年內，危險品事務組共處理了6宗新的危險品許可證申請及56宗許可證續期申請。於二零一七年三月底，共有90家航空公司獲發許可證。此外，危險品事務組批准了35家機構為航空公司、空運貨站、貨運代理人及付運人開辦危險品訓練課程。該組人員又定期和突擊巡查航空公司、空運貨站、貨運代理人、付運人和培訓機構，確保他們遵從空運危險品的安全規定。

發布安全規定

為加強業界及公眾對空運危險品的安全規定的認識，危險品事務組繼續透過多個途徑宣傳安全規定。年內，該組向貨運業界簡報最新的空運危險品規定，並繼續透過派發單張和海報，以及解答業界對空運危險品的安全規定的查詢，提醒空運業界遵從空運危險品的安全規定。此外，該組在年內發出一份危險品通告，向空運業界發布關於托運鋰電池的新空運危險品安全規定。

法例

為使本地兩套規管空運危險品的法例與國際民航組織最新的《危險品安全空運技術指令》的規定一致，危險品事務組於年內繼續進行相關的修例工作。

CARRIAGE OF DANGEROUS GOODS

The Dangerous Goods Office of APSD regulates the transport of dangerous goods by air based on the ICAO and local legal requirements. The Dangerous Goods Office has established a dangerous goods permission system whereby airlines which satisfy all pertinent safety requirements will be granted a permission to carry dangerous goods to, from or over Hong Kong. During the year, 6 new and 56 renewal applications for dangerous goods permissions were processed. At the end of March 2017, 90 airlines have been granted permissions. The Office also approved 35 organisations for conducting dangerous goods training programmes for airlines, air cargo terminals, freight forwarders and shippers. Officers from the Dangerous Goods Office conducted regular and ad-hoc inspections of the airlines, air cargo terminals, freight forwarders, shippers and training organisations to ensure their compliance with the safety requirements on air transport of dangerous goods.

Promulgation of Safety Requirements

To enhance the awareness of the industry and the public of the safety requirements on air transport of dangerous goods, the Dangerous Goods Office continued to promulgate the safety requirements through various means. During the year, the Dangerous Goods Office briefed the air cargo industry on the new dangerous goods requirements, and continued to distribute leaflets and posters, and responded to enquiries from the industry about the safety requirements on air transport of dangerous goods, reminding them to abide by the relevant safety requirements. In addition, the Dangerous Goods Office issued one advisory circular to the air cargo industry during the year concerning the safety requirements on air transport of dangerous goods in relation to the new requirements for shipping lithium batteries.

Legislation

To align the two sets of local legislation with the latest requirements of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air, the Dangerous Goods Office continued to take forward the related legislative amendment process during the year.



機場安全標準部人員與其他航空當局會面，就監管空運危險品交流經驗。
APSD officers meet different aviation authorities to share regulatory experience on the transport of dangerous goods by air.

危險品事故

年內發生的危險品事故，主要涉及未經申報的危險品。為防止類似事件重演，危險品事務組調查所有事故，並向香港空運業界及其他航空當局發布具有參考價值的危險品事故資訊。

飛機噪音管理

民航處一向關注飛機噪音對居民的影響，並根據國際民航組織的指引，實施了一系列噪音消減措施。本部使用飛機噪音及航迹監察系統，監察各項噪音消減措施的實施情況和各地區的飛機噪音水平。該系統由16個戶外噪音監察站和一台中央電腦伺服器組成。電腦會把雷達提供的飛行資料，與噪音監察站記錄的飛機噪音數據連繫起來。

年內，本部共處理了225宗飛機噪音投訴。為加深社區對各項噪音消減措施和噪音監察工作的認識，本部多次派員出席立法會、區議會和地區居民團體的會議。

Dangerous Goods Incidents

The incidents which occurred in the year were mainly related to undeclared dangerous goods. The Dangerous Goods Office conducted investigations into all these incidents for the purpose of preventing recurrence. In this connection, useful incident information was disseminated to the air cargo industry in Hong Kong and other aviation authorities.

AIRCRAFT NOISE MANAGEMENT

CAD is conscious of the impact of aircraft noise on the community and has implemented a series of noise mitigating measures based on the guidelines of ICAO. The division monitored the implementation of various noise mitigating measures and the aircraft noise situations in various districts through the Aircraft Noise and Flight Track Monitoring System. The system comprises 16 outdoor noise monitoring terminals and a central computer server which correlates the flight data provided by radars and the noise data recorded by the noise monitoring terminals.

During the year, the division handled 225 aircraft noise complaints. With a view to enhancing the understanding of the noise mitigating measures and the noise monitoring work, representatives of the division attended various meetings organised by the Legislative Council, District Councils, and local residential organisations.

航空保安

對機場各個營運者的保安監察

機場安全標準部通過審計和檢查，確保機管局和機場的各個營運者，包括租戶禁區營運者、航空公司，以及航機膳食和物品供應商，符合《香港航空保安計劃》的規定。

年內，本部根據《航空保安條例》處理了三宗香港國際機場禁區的指定個案，其中項目包括一號客運大樓七樓的中央職員禁區檢查通道、同層的北面職員禁區出口及八樓的航空公司貴賓候機室。本部人員均已作出實地巡查，確保新定的機場禁區有足夠的保安管制措施。

AVIATION SECURITY

Security Oversight of Operators at HKIA

APSD ensured that AAHK and the operators at HKIA, including tenant restricted area operators, aircraft operators and aircraft catering supplies and stores operators, complied with the requirements in the Hong Kong Aviation Security Programme through audits and inspections.

During the report period, the division processed three proposals of restricted area designations of HKIA under the Aviation Security Ordinance. The designation proposals involved were to re-designate the newly constructed Centralised Staff Screening Facility and the expanded North Staff Airside Egress on Level 7 of Passenger Terminal 1, and a renovated airline lounge on Level 8 of Passenger Terminal 1 as airport restricted area under various phases of works. Officers of the division conducted inspections to ensure that sufficient security controls were provided for the protection of the re-designated airport restricted areas.

機場安全標準部人員巡查機場禁區周邊的保安設施。
APSD officers inspect the physical security at the perimeter of the restricted area of HKIA.



空運貨物保安

根據管制代理人制度，每一名向民航處登記成為管制代理人的貨運代理，均須為空運貨物實施保安管制措施，並檢查指定來源的貨物。截至二零一七年三月三十一日，本處的登記冊上共有1 443名管制代理人。本部繼續透過定期檢查，監察已登記的管制代理人，確保他們遵守管制代理人制度的各項規定。

難受管束人士的行為

為針對民航機上難受管束和擾亂秩序人士的行為，香港制定了《航空保安(修訂)條例》，對干犯罪行的人士施加懲罰。年內，根據該條例成功檢控的個案共有兩宗。

Air Cargo Security

Under the Regulated Agent Regime (RAR), a cargo agent registered as a Regulated Agent (RA) with CAD is required to provide security control measures on consignments of air cargo and apply screening on prescribed sources of air cargo. As at 31 March 2017, there were 1 443 RAs registered with CAD. APSD continued to monitor the compliance of the RAs with the requirements of the RAR through regular inspections.

Unruly Behaviour

To fight against unruly or disruptive behaviour committed by persons on board civil aircraft, the Aviation Security (Amendment) Ordinance was enacted to impose penalties on such offences. During the report period, there were two cases of successful prosecution under the Ordinance.

機場安全標準部人員巡查航空交通管制設備的保安設施。
APSD officers inspect the physical security of Air Traffic Control Equipment.



簡化手續

機場安全標準部藉參與機場簡化手續委員會，監察《國際民航公約》附件9所訂的標準和建議措施在機場實施的情況。此外，本部按《國際民航公約》附件9的規定，為香港註冊的航空公司的機組人員發出空勤人員證書，以便他們執行飛行職務。年內，本部向香港登記航空公司的機組人員發出了共2 477張新的空勤人員證書。

國際事務

機場安全標準部繼續與海外航空當局溝通，就最佳的保安措施分享資訊，以提升香港航空保安的水平，並參與國際會議及計劃，以密切留意保安措施的最新發展。

國際民航組織航空保安專家組

機場安全標準部一直派員以中國代表團成員身分，參與每年在加拿大蒙特利爾舉行的國際民航組織航空保安專家組會議。該專家組會議的目標是制定國際標準和建議措施，以保護民用航空免受非法行為干擾，以及識別和研究民用航空所面對的新威脅。

與海外航空保安當局聯繫

機場安全標準部一直與海外航空保安當局保持緊密聯繫。年內，美國及澳洲航空保安當局分別到訪本處，與機場安全標準部人員交流及分享航空保安的經驗和資料。

Facilitation

Through the participation in the Airport Facilitation Committee, APSD monitored the implementation of the SARPs of ICAO Annex 9 at HKIA. Besides, to facilitate crew members of Hong Kong registered aircraft operators to discharge their flight duties, APSD issued Crew Member Certificates (CMC) in accordance with ICAO Annex 9. During the year, 2 477 CMC were issued to the crew members of Hong Kong registered aircraft operators.

INTERNATIONAL ACTIVITIES

APSD continued to communicate with overseas aviation authorities to share information on best practices of security measures for enhancing the aviation security in Hong Kong, and participate in international meetings and programmes for monitoring the development of aviation security measures.

ICAO Aviation Security Panel (AVSECP)

APSD has been participating, as part of the Chinese delegation, in the ICAO AVSECP Meeting held annually in Montreal, Canada. The objectives of the AVSECP are to develop SARPs for the purpose of safeguarding civil aviation against acts of unlawful interference, and to identify and examine new and emerging threats against civil aviation.

Liaison with Overseas Aviation Security Authorities

APSD maintained very close liaison with other aviation security authorities. During the year, the aviation security authorities of the US and Australia visited CAD, and shared the experiences and information with the division on aviation security matters.

航班事務及安全管理

Air Services and Safety Management

航班事務及安全管理部負責的工作包括：監察航空公司遵守雙邊航空運輸安排的情況；就本地航空公司的空運牌照申請及民航運輸談判向有關當局提供資料；為航空公司及其他飛機營運商提供航班協調和時刻分配服務；制定和實施航空安全管理政策，以促進航空系統安全和提升安全水平；以及監管香港的空中導航服務。該部也負責處理有關民航的立法事宜、為飛機意外及嚴重事故的調查工作提供行政支援，制定民航處的培訓政策，包括為民航處的專業職系人員制定培訓及發展計劃/課程以及向國際組織提供航空交通統計數字。

The Air Services and Safety Management Division (ASMD) is responsible for monitoring the operations of airlines in compliance with bilateral air services arrangements; providing information to relevant authorities regarding air transport licence applications by local airlines and for air services negotiations; providing schedule co-ordination and slot allocation services to airlines and other aircraft operators; developing and implementing safety policy to promote and enhance safety in the aviation system; and regulating Hong Kong air navigation services. ASMD is also responsible for handling civil aviation legislative matters; providing administrative support to the investigation of aircraft accidents and serious incidents; formulating departmental training policy, including the establishment of a training and development plan/programme for departmental professional grade staff and providing air traffic statistics to international organisations.





航班事務及安全管理

Air Services and Safety Management

航空服務

航空交通量增長

二零一六至一七年度的客運量達7 005萬人次，按年上升了1%；飛機升降量亦達410 455架次，按年增加了0.1%。貨運量則為460萬公噸，按年增加6.7%。

截至二零一七年三月底的年度內，提供定期航班服務往來香港的航空公司有114家，服務網絡涵蓋206個城市/機場。

本地航空公司的服務

截至二零一七年三月底，國泰航空公司營辦的定期航班服務遍及全球77個目的地，當中包括客運航班的新航點倫敦(蓋特威克)和馬德里，以及貨運航班的新航點波特蘭和圖文巴。

港龍航空公司於二零一六年十一月更新品牌為「國泰港龍航空」(國泰港龍)。截至二零一七年三月底，國泰港龍營辦的定期客運航班服務遍及44個目的地，包括新增的航點吉隆坡。

香港華民航空公司(華民航空)繼續經營亞洲區定期貨運航班服務。截至二零一七年三月底，華民航空營辦往來亞洲12個目的地的定期航班服務。

截至二零一七年三月底，香港航空有限公司營辦往來40個目的地的定期航班服務，包括新增客運航點奧克蘭、首爾、岡山、大阪、塞班島和米子。

香港快運航空有限公司(香港快運)是本港目前唯一的低成本航空公司。截至二零一七年三月底，香港快運的定期航班服務涵蓋27個目的地，新增的航點包括清萊、芽莊、關島、石垣、卡里博、鹿兒島、塞班島、高松和仰光。

AIR SERVICES

Air Traffic Growth

Traffic throughput in the year 2016-17 reached 70.05 million passengers, representing a year-on-year growth rate of 1%. Aircraft movements also reached 410 455 movements, representing a year-on-year growth rate of 0.1%. Cargo throughput was 4.6 million tonnes, representing a year-on-year growth rate of 6.7%.

During the year up to the end of March 2017, 114 scheduled airlines had served Hong Kong. The total number of cities/airports served by scheduled services to and from Hong Kong was 206.

Services by Local Carriers

By the end of March 2017, Cathay Pacific Airways operated scheduled services to 77 destinations worldwide, including new destinations to London (Gatwick) and Madrid for scheduled passenger services, as well as Portland and Toowoomba for scheduled cargo services.

Hong Kong Dragon Airlines Limited, which was rebranded as Cathay Dragon in November 2016, operated scheduled passenger services to 44 destinations by the end of March 2017, including a new destination to Kuala Lumpur.

AHK Air Hong Kong Limited (AHK) continued to operate scheduled all-cargo services in Asia. By the end of March 2017, AHK operated scheduled services to 12 destinations in Asia.

Hong Kong Airlines Limited operated scheduled services to 40 destinations by the end of March 2017, including new destinations Auckland, Seoul, Okayama, Osaka, Saipan and Yonago for passenger services.

Hong Kong Express Airways Limited (HKE) is the only low cost carrier in Hong Kong. By the end of March 2017, HKE operated scheduled services to 27 destinations, adding Chiang Rai, Nha Trang, Guam, Ishigaki, Kalibo, Kagoshima, Saipan, Takamatsu and Yangon to its network.

美捷香港商用飛機有限公司、TAG Aviation Asia Limited和香港航空公務機管理有限公司繼續營辦不定期客運航班服務，接載乘客到世界各地。

空中快線直升機有限公司繼續營辦香港與澳門之間的不定期客運航班服務。

直升機服務(香港)有限公司繼續在本地提供客運包機和空中作業服務。

非本地航空公司的服務

年內，共有三家海外航空公司首次開辦往來香港的定期客運服務，包括：奧地利航空於二零一六年九月開辦往來維也納的航班，以及德威航空和越捷航空於二零一六年十二月分別開辦往來大邱和胡志明市的航班。

定期貨運服務方面，Bismillah Airlines於二零一六年十一月開辦往來達卡的航班。

年內，有四家航空公司停辦往來香港的定期航班服務，計有：孟加拉航空公司(二零一六年三月)、暹羅航空(二零一六年七月)、酷航(二零一六年十月)，以及連城航空(二零一七年二月)。

年內，民航處合共簽發了130張經營許可證予航空公司，以供營辦往來香港的定期航班服務，並處理了大約4 200宗更改定期航班服務的申請，另又簽發了907張經營香港境內和往來香港包機服務的許可證。

Metrojet Limited, TAG Aviation Asia Limited and Hong Kong Airlines Corporate Jet Management Limited continued to operate non-scheduled passenger services to cities around the world.

Sky Shuttle Helicopters Limited continued to operate non-scheduled passenger services between Hong Kong and Macau.

Heliservices (Hong Kong) Limited (HEL) continued to operate local passenger charters and aerial work services.

Services by Non-Hong Kong Carriers

Three foreign operators commenced new scheduled passenger services during the year. Austrian Airlines commenced services from Vienna in September 2016. T'way Air commenced services from Daegu and Vietjet Aviation commenced services from Ho Chi Minh City in December 2016 respectively.

For scheduled all-cargo services, Bismillah Airlines commenced services from Dhaka in November 2016.

During the year, four airlines suspended their scheduled services to and from Hong Kong. They were Biman Bangladesh Airlines in March 2016, Siam Air in July 2016, Scoot in October 2016 and Citilink in February 2017.

During the year, CAD issued 130 operating permits to airlines for operation of scheduled services to and from Hong Kong, and processed around 4 200 applications for changes to the schedules. A total of 907 permits were also issued for the operation of charter services to, from and in Hong Kong.



運價

年內，民航處共處理了1 380宗涉及修訂往來香港客運和貨運定期航班服務的運價申請。鑑於油價有上升趨勢，民航處回應了業界的意見，並於二零一七年三月宣布一項設有時限的安排，批准航空公司自二零一七年四月起徵收貨運燃油附加費。

空運牌照

根據《空運(航空服務牌照)規例》(第448A章)，任何人如欲使用在香港註冊的飛機，營辦定期航班運載乘客、郵件或貨物，必須向空運牌照局申請營運牌照。年內，民航處就兩宗牌照續期申請及兩宗更改牌照申請，向空運牌照局提供了與航班事務相關的資料和統計數字。

航班時刻分配

按照國際航空運輸協會發布的《世界航班時刻準則》，香港機場航班協調辦公室以公平、中立、高透明度的方式分配機場航班時刻，以確保現有的機場基礎設施得以善用。年內，於香港國際機場運作的航空公司及其他飛機營運商共獲分配416 345個航班時刻，達到機場最高容量的99.1%。香港機場航班協調辦公室所處理的航班時刻申請數量，較去年同期減少約1.1%，主要是由於在二零一六年十月底開始的四個星期內，每日減少了九十班航班，以配合新航空交通管理系統的順利過渡。

國際民航組織的活動

為遵行《基本法》的規定，保持香港國際和區域航空中心的地位，以及方便履行國際民用航空組織(國際民航組織)區域航行程序所定職責，民航處繼續積極參與國際民航組織的活動。年內，民航處代表以中華人民共和國代表團成員身分，出席了五次只限國家參加的國際民航組織會議，另以「中國香港」

TARIFFS

During the year, CAD processed 1 380 tariff filings for carriage of passengers and cargo on scheduled services to and from Hong Kong. In view of an upward trend in oil prices and in response to comments from the industry, CAD announced in March 2017 the implementation of a time-limited arrangement to allow airlines to levy cargo fuel surcharges from April 2017.

AIR TRANSPORT LICENSING

In accordance with the Air Transport (Licensing of Air Services) Regulations (Chapter 448A), any person intending to use Hong Kong-registered aircraft to operate scheduled services to carry passengers, mail or cargo must apply to the Air Transport Licensing Authority for a licence for such operations. During the year, CAD provided the Air Transport Licensing Authority with air services-related information and statistics with regard to two applications for renewal of licences and two applications for variation of licences.

SLOT ALLOCATION

In accordance with the International Air Transport Association's Worldwide Slot Guidelines, the Hong Kong Schedule Coordination Office (HKSCO) managed slot allocation in a neutral, transparent and fair manner, with a view to ensuring the efficient utilisation of existing airport infrastructure. During the year, airlines and other aircraft operators at Hong Kong International Airport were allocated a total of 416 345 slots, reaching 99.1% of the airport capacity. The number of slot applications processed by HKSCO decreased by about 1.1% compared with the same period last year, mainly due to the cancellation of 90 daily flights for a period of 4 weeks effective from the end of October 2016 to cater for the smooth transition of the new Air Traffic Management system.

ACTIVITIES OF ICAO

To maintain the status of Hong Kong as a centre of international and regional civil aviation in accordance with the provisions of the Basic Law, and to facilitate the discharge of Hong Kong's responsibilities under the regional air navigation procedures of the International Civil Aviation Organization (ICAO), CAD continued to participate actively in ICAO's activities. During the year, representatives of CAD attended five ICAO meetings which were limited to states as part of the delegation of the

的名義，參加了24次並非以國家為單位的國際民航組織會議。以上29次會議的詳情見附錄。此外，本處與國際民航組織往來的函件共有434份，主要就民航技術事宜提供意見及資料。

亞太經合組織的活動

民航處繼續以「中國香港」的名義，支持亞太經合組織的民航活動和措施。年內，本處就亞太經合組織的21項要求，提供了民航技術事宜的意見及資料。

安全策略辦公室

安全策略辦公室負責落實安全管理措施和規定，統籌和協調本處推展安全方案和持續監察方法的工作，並與意外調查辦公室合作，促進安全管理和預防飛機意外及嚴重事故發生。

持續監察方法的落實工作

國際民航組織自二零一三年一月起，採用持續監察方法，取代以往對締約國展開周期安全監督審計的方法。持續監察方法要求各締約國及民航當局，向國際民航組織提供相關資料，以供國際民航組織持續審計，從而加強各國及民航當局監督航空安全的能力，保障全球航空安全。

People's Republic of China, and 24 ICAO meetings which were not so limited, using the name "Hong Kong, China". Details of these 29 meetings are provided in the Appendix. CAD also exchanged 434 letters with ICAO, the majority of which involved comments and information on technical matters related to civil aviation.

ACTIVITIES OF APEC

CAD continued to support aviation related activities and initiatives of APEC using the name "Hong Kong, China". During the year, CAD handled 21 requests relating to APEC, which involved provision of comments and information on technical matters related to civil aviation.

STRATEGIC SAFETY OFFICE

The Strategic Safety Office is responsible for implementing safety management initiatives and requirements. It plans and coordinates the State Safety Programme (SSP) and Continuous Monitoring Approach (CMA) activities for CAD, and collaborates with the Accident Investigation Office on the promotion of safety management principles, and the prevention of aircraft accidents and serious incidents.

Continuous Monitoring Approach (CMA) Implementation

The implementation of the CMA by ICAO since January 2013 has replaced the previous cyclical audits on states by ICAO. Under the CMA, all states and administrations are required to provide the required information to ICAO for the latter's continuous review, with a view to enhancing the safety oversight capability of states and administrations and promoting global aviation safety.



根據持續監察方法的最新發展，民航處通過持續監察方法協調工作小組，協調制定行動計劃及執行的細節，積極落實相關工作，當中包括向國際民航組織提供所需資料，並依循持續監察方法安排內部安全審計等事宜。年內，落實持續監察方法的工作進展良好。

國家安全方案的實施

年內，民航處繼續推行《香港安全方案》，並根據國際民航組織最新的安全管理標準和指引，對方案進行檢討和更新。

為促進航空業界的安全協作和推廣安全文化，並加強《香港安全方案》的發展，民航處於二零一六年五月五及六日舉辦「航空安全會議2016」。會議以「挑戰•前景」為主題，吸引逾250位來自50家海外及本地機構的業界人士參加。

為提倡航空業的安全文化，並促進與本地和國際航空業界的安全信息共享，民航處於二零一六年六月發布了第一期的《航空安全通訊》。本處亦於二零一六年十二月推出了「民航處航空安全圖書館」的聯機系統，以便有效地發布內部指引給員工及管理文件。

民航處會繼續按部就班，分階段推行相關的全球航空安全策略和安全管理條文，不斷改進航空安全的規管工作。

In the light of the latest CMA developments, CAD has proactively implemented the CMA activities through the coordination of the CMA Coordination Working Group in the formulation of the action plans and associated tasks, which include provision of the required information to ICAO and conduct of CMA internal audits. Positive progress in the CMA implementation was achieved during the year.

State Safety Programme (SSP) Implementation

CAD continued to implement SSP according to the “Hong Kong Safety Programme” (HKSP), which was reviewed and updated with reference to the latest ICAO’s requirements and guidance on safety management.

To promote safety partnership, safety culture and development of HKSP amongst the aviation community, Aviation Safety Conference 2016 was held from 5-6 May 2016. Themed as “Challenges and the Way Forward”, the forum attracted over 250 participants from 50 local and overseas organisations.

CAD published the first issue of “Safety Links” in June 2016 to foster a positive safety culture and to promote safety information sharing with the local and international aviation community. An online CAD Safety Library System was also launched in December 2016 to effectively promulgate guidance to CAD staff and to manage documentation.

CAD will continue to adopt a phased approach to implement the related global aviation safety strategies and safety management provisions with a view to continually enhancing our safety regulation.



航空安全會議2016在民航處總部舉行。
Aviation Safety Conference 2016 was held at CAD Headquarters.

飛機意外及嚴重事故調查

民航處是本港的飛機意外調查當局，負責調查於香港發生的飛機意外及嚴重事故。調查工作由訓練有素的意外調查主任，根據國際民航組織訂立的《國際民航公約》《附件13》（《附件13》）的標準和建議措施進行，目的是確定發生事故的情況及因由，避免事故再次發生。

為符合在二零一六年十一月生效，並須於兩年內實施的《附件13》的新規定，即意外調查機構須獨立於民航管理部門及其他可能干預調查的進行或客觀性的團體，政府計劃在運輸及房屋局（運房局）下成立一個獨立於民航處的民航意外調查機構。民航處與運房局緊密合作，就建議諮詢業界及制定《香港民航（意外調查）規例》（香港法例第448B章）的相應修訂，以落實此計劃。

年內，民航處繼續就下列意外進行調查：

- 二零一六年二月二十七日，一架香港飛行總會的Zlin Z242L型定翼機，在大埔赤門虎頭沙近岸位置墜毀水中。該飛機由一名飛行員以目視飛行規則操作，機上沒有搭載乘客。飛行員在意外中死亡。

AIRCRAFT ACCIDENT AND SERIOUS INCIDENT INVESTIGATIONS

CAD is also the aircraft accident investigation authority for aircraft accidents and serious incidents occurred in Hong Kong. These investigations are carried out by trained Inspectors of Accidents in line with the standards and recommended practices stipulated by the ICAO in Annex 13 to the Convention on International Civil Aviation (Annex 13) with the purpose of determining the circumstances and causes of the occurrences to prevent recurrence in future.

To comply with a new Annex 13 requirement that became applicable in November 2016 for implementation within two years, i.e. the accident investigation authority should be independent from the state aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation, the Government planned to establish an independent air accident investigation authority under the Transport and Housing Bureau, which will be separated from CAD. To this end, CAD worked closely with the Bureau in consulting the industry and formulating amendments to the Hong Kong Civil Aviation (Investigation of Accidents) Regulations (Cap. 448B).

During the year, CAD continued its investigation of the following accidents:

- On 27 February 2016, a Zlin Z242L aircraft of the Hong Kong Aviation Club crashed into water offshore of Fu Tau Sha at Tolo Channel, Tai Po. The aircraft was operated under Visual Flight Rules by one pilot with no passengers on board. The pilot was fatally injured.





- 二零一六年五月二十一日，一架香港飛行總會之塞斯納152 II型定翼機，於石崗機場進行單獨繞場訓練，著陸時飛機結構嚴重損毀。飛行學員於意外中沒有受傷。
- On 21 May 2016, a Cessna 152 II aircraft of the Hong Kong Aviation Club incurred substantial structural damage during the landing of a solo circuit training flight at the Shek Kong Airfield. The student pilot on board was not injured.
- 二零一六年十月二十三日，一架香港飛行總會之R22 Beta II型直升機在石崗機場進行飛行訓練。據報當直升機嘗試起飛作懸停狀態時，起落槓被草纏着，以致直升機翻側，結構嚴重受損。機上的飛行教官受輕傷。
- On 23 October 2016, when a Robinson R22 Beta II helicopter of the Hong Kong Aviation Club attempted to lift up for a hover during a training flight at the Shek Kong Airfield, its skids were reported entangled in the grass. The helicopter rolled over and incurred substantial structural damage. The flying instructor on board sustained minor injury.



- 二零一七年二月二十六日，一架香港飛行總會之塞斯納152 II型定翼機，在飛機等級飛行測試途中，飛行員報告「發動機不暢順」，然後在三杯酒附近進行迫降。飛機結構嚴重損毀，而機上兩位飛行員並無受傷。
- On 26 February 2017, a Cessna 152 II aircraft of the Hong Kong Aviation Club executed a forced landing near Sam Pui Chau after the pilot reported a "rough engine" during an aircraft rating flight test. The aircraft incurred substantial structural damage. The two pilots on board were not injured.

初步報告及意外調查公報均已上載民航處網頁 (www.cad.gov.hk/chinese/reports.html)。

The preliminary reports and accident bulletins are published on the CAD's website (www.cad.gov.hk/english/reports.html).



航空交通管理標準組

航空交通管理標準組(空管標準組)負責確保本港提供的空中導航服務，達到並維持在所訂的高水平安全標準。

安全監督工作

空管標準組定期對航空交通管理部和航空交通工程服務部進行審計和安全檢查。年內，共進行了28次審計和安全檢查。

安全檢查範圍包括航空交通管理與通訊、導航和監察服務的運作、程序、培訓和考試，安全管理系統的應用，空管設備/系統，安全事故調查，設備維修保養的安排，內部審核，以及安全建議的跟進行動。

在航空交通管理系統(航管系統)於二零一六年十一月過渡前，空管標準組積極參與航管系統的過渡工作，提供多項意見，務求系統安全過渡。其間，空管標準組進行了多次實地視察和四次安全監督巡查，以確定航管運作於任何重大安全變更在實施前均需符合監管規定的安全水平，才予以推行。

空管標準組亦於二零一六年九月根據國際民航組織和《1995年飛航(香港)令》的規定，對航空交通管理部培訓組的認可培訓機構，進行了續牌審計。培訓機構成功續領為期五年的認可資格證明書。

空管標準組的職責之一，是聯同航空交通管理部的調查人員，就所有空管事故展開初步調查，以確定事故的類別和嚴重程度。

透過空中導航服務標準協調會議和航空交通安全評核委員會，空管標準組亦定期與空中導航服務提供單位和其他負責航空安全的持份者合作，例如飛行標準及適航部、本地主

AIR TRAFFIC MANAGEMENT STANDARDS OFFICE (ATMSO)

ATMSO is responsible for ensuring that a high standard of safety in the provision of air navigation services in Hong Kong is established, achieved and maintained.

Safety Oversight Activities

ATMSO conducted regular audits and safety inspections on the Air Traffic Management Division (ATMD) and Air Traffic Engineering Services Division (AESD). During the year, a total of 28 audits and safety inspections were conducted.

The safety inspections included Air Traffic Management (ATM) and Communication, Navigation and Surveillance (CNS) activities in operations, procedures, training, examinations, Safety Management System (SMS) implementation, ATC equipment/systems, safety occurrences investigations, maintenance arrangement, internal audits and follow-up actions arising from safety recommendations.

Prior to the Air Traffic Management System (ATMS) transition in November 2016, ATMSO participated actively in ATMS transition related activities to provide inputs with a view to facilitating a safe transition of ATMS. In this connection, ATMSO conducted a number of site-visits and four regulatory inspections in relation to this transition to verify the level of compliance with the regulatory requirements before introducing any safety significant changes to ATM operations.

A regulatory audit was also conducted in September 2016 to renew the certificate of approved training organisation (ATO) for the Training Unit of ATMD in accordance with requirements of ICAO and the Air Navigation (Hong Kong) Order 1995. The certificate of ATO was successfully renewed with 5 years validity.

As part of its duties, ATMSO participated in the preliminary investigations of all ATC incidents jointly with ATMD investigators to determine the category and severity of the incident.

Through the Air Navigation Services Standards Coordination Meeting and the Air Traffic Safety Assessment Committee, ATMSO also regularly reviewed in collaboration with air navigation service provider and the safety personnel of other stakeholders, e.g. Flight Standards and Airworthiness

要航空公司和政府飛行服務隊，以共同檢討安全事故、安全管理系統的應用和提供安全空中導航服務的事宜，推動持續發展，精益求精。

文件編製

空管標準組定期覆檢和修訂現有的規管文件，確保內容準確有效和符合現況。年內，經修訂的規管文件包括《空管標準文件持有者列表》、《空中導航服務的安全要求》(CAD 670)、《航空交通管制認可考官守則》(CAD 620)和《簽發航空人員執照：香港航空交通管制員》(CAD 744)及《空中導航服務資料通告》清單。

空管人員執照

根據《國際民航公約》《附件1》的標準和《1995年飛航(香港)令》的規定，空管標準組共發出了42份首次簽發的空管主任執照、空管級別執照和合格證書，另續發了179份空管級別執照和合格證書。

安全推廣工作

為推廣安全訊息，空管標準組定期為空中導航服務提供單位和維修服務承辦商的職員，舉辦安全文化和安全管理系統的簡報會，以鞏固安全監督和安全管理概念。此外，空管標準組也定期於本處內聯網發布規管資訊和安全管理資料，方便所有空中導航服務人員查閱。

培訓及發展組

培訓及發展組為培訓及發展委員會提供支援，以制定部門培訓政策，以及就通過部門培訓計劃作出建議。該組與各分部負責統籌培訓事宜的人員緊密合作，協助委員會監察經核准的部門培訓計劃是否有效推行，並與各分部適時協調，在有需要時修訂培訓計劃。培訓及發展組的其他主要職務包括落

Division, major local airline operators and Government Flying Service, etc., issues pertinent to safety occurrences, the implementation of SMS and safe air navigation service provisions to promote continual development and improvement.

Documentation

ATMSO reviews and updates existing regulatory documents periodically to ensure that they remain accurate, valid and up-to-date. In the report year, the ATMSO had issued amendments to the ATMSO Document Holders List, Air Navigation Services Safety Requirements (CAD 670), the ATC Approved Examiner Handbook (CAD 620), Personnel Licensing – Hong Kong Air Traffic Controllers (CAD 744) and the Checklist of Air Navigation Services Information Notices.

ATC Personnel Licensing

In accordance with the standards in ICAO Annex 1 and the requirements of Air Navigation (Hong Kong) Order 1995, ATMSO processed 42 initial awards of ATC Licences, ATC Ratings and Certificates of Competency, as well as 179 renewals of Ratings and Certificates.

Safety Promotion

For safety promotion, ATMSO conducted periodic briefings to the air navigation service providers and the staff of the maintenance services provider on safety culture and SMS to reinforce safety oversight and safety management concepts. In addition, ATMSO regularly published regulatory information and safety management materials on the intranet for convenient access by all air navigation services staff.

TRAINING AND DEVELOPMENT OFFICE (TDO)

The TDO supports the Training and Development Committee (TDC) of CAD in formulating the departmental training policy and making recommendations on the endorsement of the departmental training programme. By maintaining close liaisons with divisional training coordinators, the TDO assists the TDC in monitoring the effective implementation of the approved departmental training programme and coordinating timely with divisions to make necessary adjustments to the

實已獲委員會通過的部門培訓/學習方案，以及舉辦知識管理活動，促進部門的持續學習文化。

知識管理活動

培訓及發展組定期舉辦知識管理活動，在部門培育濃厚的持續學習文化。這些活動包括最新的航空發展或趨勢講座、拜訪航空業界伙伴及持份者等。當中，在每月其中一個星期三舉辦為時約一小時的講座「學習星期三」，自二零一五年九月推出以來，一直深受同事歡迎。講座特設與講者互動討論的最後環節，更是同事分享知識和經驗的有效平台。

航空教育徑

航空教育徑(教育徑)是有效的教育工具，能增進市民大眾的航空知識，包括香港民用航空的發展歷程、民航處的角色和責任，以及航空安全的重要性。年內，參觀教育徑的人數約15 400人，當中以中小學生為主。

成立民航訓練學院

行政長官在二零一六年《施政報告》中公布，為進一步鞏固香港作為區內主要航空樞紐的優勢，香港機場管理局(機管局)將成立民航學院，培訓本地及區域空運管理人才。就成立香港國際航空學院的事宜，民航處已向機管局提供建議和支援。

programme. Other core functions of the TDO include taking forward department-wide training/learning initiatives duly endorsed by the TDC and promoting continuous learning culture within the department through organising Knowledge Management activities.

Knowledge Management Activities

The TDO regularly coordinates Knowledge Management activities such as talks on latest aviation developments or trends, visits to industry partners and stakeholders in order to foster a strong continuous learning culture within the department. Amongst these activities, the "Learning Wednesday", a one-hour talk taking place on a Wednesday of every month, remains very popular amongst staff since it started in September 2015. The talk, featuring as its last session an interactive discussion between speakers and audience, provided an effective forum for colleagues to share knowledge and experiences.

Aviation Education Path

The Aviation Education Path continued to fulfil its role as an educational tool for effectively raising the awareness of the public about the historical developments of civil aviation in Hong Kong, the functions and responsibilities of CAD and the importance of aviation safety. The number of visitors to the Aviation Education Path this year was around 15 400 persons, with a majority of the visitors from local primary and secondary school.

Establishment of a Civil Aviation Training Institute

The Chief Executive announced in the Policy Address 2016 that, to further strengthen Hong Kong's edge as a major regional aviation hub, the Airport Authority Hong Kong (AAHK) would take forward the establishment of a civil aviation academy to nurture local and regional aviation management talent. CAD provided advice and support to the AAHK to establish the Hong Kong International Aviation Academy.



航空教育徑。
Aviation Education Path.

附錄

二零一六年四月至二零一七年三月期間，民航處人員參加的國際民航組織會議：

會議名稱	地點	日期
1. 廣播式自動相關監察系統實施專責小組第十五次會議	泰國曼谷	二零一六年四月十八日至二十日
2. 監察系統實施專責小組第一次會議	泰國曼谷	二零一六年四月二十一日至二十二日
3. 區域共同虛擬專用網絡專責小組先行成員第二次會議	泰國曼谷	二零一六年五月九日
4. 區域共同虛擬專用網絡專責小組第五次會議	泰國曼谷	二零一六年五月十日至十一日
5. 航空通訊服務實施協調小組第三次會議	泰國曼谷	二零一六年五月十一日至十三日
6. 機場營運及規劃專責小組第四次會議	泰國曼谷	二零一六年五月二十三日至二十五日
7. 亞太地區航空交通流量主導小組第六次會議	泰國曼谷	二零一六年六月六日至十日
8. 事故調查專家組第二次會議	加拿大蒙特利爾	二零一六年六月十四日至十七日
9. 亞太地區航行規劃和實施小組轄下航空交通流量小組第四次會議	泰國曼谷	二零一六年七月四日至八日
10. 亞太地區航行規劃和實施小組轄下通訊/導航及監察分組第20次會議	泰國曼谷	二零一六年七月十一日至十五日
11. 安全管理專家組第二次會議	加拿大蒙特利爾	二零一六年七月十一日至十五日
12. 第53次亞太地區民航局局長會議	斯里蘭卡科倫坡	二零一六年八月一日至五日
13. 亞太地區區域航空安全小組第六次會	斯里蘭卡科倫坡	二零一六年八月一日至二日
14. 亞太地區航空保安協調論壇第四次會議	斯里蘭卡科倫坡	二零一六年八月一日至二日
15. 亞太地區航空安全小組轄下意外調查專責小組第四次會議	日本東京	二零一六年九月一日至二日
16. 亞太地區航行規劃和實施小組第二十七次會議	泰國曼谷	二零一六年九月五日至八日
17. 第二屆國際民航組織世界航空論壇	加拿大蒙特利爾	二零一六年九月二十六日

Appendix

ICAO conferences and meetings attended by representatives of CAD between April 2016 and March 2017:

<i>Name of Conference or Meeting</i>	<i>Venue</i>	<i>Dates</i>
1. 15 th Meeting of the ADS-B Study and Implementation Task Force	Bangkok, Thailand	18 - 20 April 2016
2. First Meeting of the Surveillance Implementation Coordination Group	Bangkok, Thailand	21 - 22 April 2016
3. Second Meeting of the Common Regional Virtual Private Network Pioneer States	Bangkok, Thailand	9 May 2016
4. 5 th Meeting of the Common Regional Virtual Private Network Task Force	Bangkok, Thailand	10 - 11 May 2016
5. Third Meeting of the Aeronautical Communication Services Implementation Coordination Group	Bangkok, Thailand	11 - 13 May 2016
6. 4 th Meeting of the Aerodromes Operations and Planning Working Group	Bangkok, Thailand	23 - 25 May 2016
7. 6 th Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group	Bangkok, Thailand	6 - 10 June 2016
8. Second Meeting of the Accident Investigation Panel	Montreal, Canada	14 - 17 June 2016
9. 4 th Meeting of the Air Traffic Management Sub-Group of APANPIRG	Bangkok, Thailand	4 - 8 July 2016
10. 20 th Meeting of the Communications / Navigation and Surveillance Sub-group of APANPIRG	Bangkok, Thailand	11 - 15 July 2016
11. Second Meeting of the Safety Management Panel	Montreal, Canada	11 - 15 July 2016
12. 53 rd Conference of Directors General of Civil Aviation, Asia and Pacific Regions	Colombo, Sri Lanka	1 - 5 August 2016
13. 6 th Meeting of the Regional Aviation Safety Group – Asia and Pacific Regions	Colombo, Sri Lanka	1 - 2 August 2016
14. 4 th Meeting of the Asia Pacific Regional Aviation Safety Team – Asia Pacific Regions	Colombo, Sri Lanka	1 - 2 August 2016
15. 4 th Meeting of the Asia Pacific Accident Investigation Group	Tokyo, Japan	1 - 2 September 2016
16. 27 th Meeting of the Asia Pacific Air Navigation Planning and Implementation Regional Group	Bangkok, Thailand	5 - 8 September 2016
17. Second ICAO World Aviation Forum	Montreal, Canada	26 September 2016

會議名稱	地點	日期
18. 第39屆國際民航組織大會會議	加拿大蒙特利爾	二零一六年九月二十七日至十月七日
19. 南中國海主要航空交通流量檢討專責小組第四次會議	中國長沙	二零一六年十月二十六日至二十八日
20. 亞太地區航空安全小組第九次會議	泰國曼谷	二零一六年十月三十一日至十一月四日
21. 東南亞及孟加拉灣廣播式自動相關監察系統實施專責小組第十二次會議	中國廣州	二零一六年十一月八日至十日
22. 亞太地區航空情報設施專責小組第一次會議	泰國曼谷	二零一六年十二月十三日至十五日
23. 區域共同虛擬專用網絡專責小組第六次會議	泰國曼谷	二零一六年十二月十四日至十六日
24. 航空區域共同虛擬專用網絡工作組第一次會議	泰國曼谷	二零一六年十二月十四日至十六日
25. 亞太地區部長級會議籌備工作小組第一次會議	泰國曼谷	二零一七年二月九日至十日
26. 全球基於市場措施技術工作組第十次會議	加拿大蒙特利爾	二零一七年二月六日至十日
27. 東南亞地區空管協調小組第二十四次會議	泰國曼谷	二零一七年三月六日至八日
28. 基於性能導航實施協調小組第四次會議	泰國曼谷	二零一七年三月十四日至十六日
29. 亞太地區氣象情報交流工作組第十五次會議	泰國曼谷	二零一七年三月二十日至二十二日

<i>Name of Conference or Meeting</i>	<i>Venue</i>	<i>Dates</i>
18. The 39 th Session of the Assembly of ICAO	Montreal, Canada	27 September - 7 October 2016
19. 4 th Meeting of the South China Sea Traffic Flow Review Group	Changsha, China	26 - 28 October 2016
20. 9 th Meeting of the Asia Pacific Regional Aviation Safety Team	Bangkok, Thailand	31 October - 4 November 2016
21. 12 th Meeting of the South East Asia and Bay of Bengal Sub-regional ADS-B Implementation Work Group	Guangzhou, China	8 - 10 November 2016
22. First Meeting of the Asia/Pacific Air Traffic Services Inter-Facility Data Communication Implementation Task Force Working Group	Bangkok, Thailand	13 - 15 December 2016
23. 6 th Meeting of Common Aeronautical Virtual Private Network Task Force	Bangkok, Thailand	14 - 16 December 2016
24. First Meeting of the Common Aeronautical Virtual Private Network Operations Group	Bangkok, Thailand	14 - 16 December 2016
25. First Meeting of the Asia/Pacific Ministerial Conference preparation Working Group	Bangkok, Thailand	9 - 10 February 2017
26. 10 th Meeting of the Global Market-based Measure Technical Task Force	Montréal, Canada	6 - 10 February 2017
27. 24 th Meeting of the South-East Asia Air Traffic Services Coordination Group	Bangkok, Thailand	6 - 8 March 2017
28. 4 th Meeting of Performance-based Navigation Implementation Coordination Group	Bangkok, Thailand	14 - 16 March 2017
29. 15 th Meeting of the Asia/Pacific Meteorological Information Exchange Working Group	Bangkok, Thailand	20 - 22 March 2017

開支

在二零一六年度至二零一七年度，本處在政府財政預算總目下的開支為9.5億元；按有關會計準則計算的總經營支出(包括政府其他部門提供服務的成本)則為13.53億元。同期資本開支為7,700萬元，主要項目包括航空交通管制系統。

EXPENDITURE

In the year of 2016-17, the departmental expenditure under the relevant Head of Government Budget amounted to \$950 million, while the total operating expenditure (including costs of services provided by other government departments) for the same period amounted to \$1,353 million according to the relevant accounting practice. Capital expenditure during the year amounted to \$77 million, and major item included Air Traffic Control System.

收入

本處提供服務時以「用者自付」為原則，即透過相關費用及收費向用者收回服務所有成本。收費服務主要包括：提供航空交通服務、過境導航服務及簽發牌照予本地航空公司、空勤人員、飛機維修機構、飛機工程師、培訓機構及香港國際機場，在二零一六至二零一七年度的總收入為11.97億元。另外，本處亦按《飛機乘客離境稅條例》(第140章)協助政府透過航空公司收取離境稅款，在二零一六至二零一七年度的相關稅款為25.98億元。

REVENUE

CAD provides services according to the "user-pay" principle, i.e., the relevant fees and charges should recover the full cost of service provision. Fee-charging services provided by CAD include: the provision of air traffic services, en-route navigation services and licensing of local airlines, aircrews, maintenance organisations, aeronautical engineers, training organisations and the Hong Kong International Airport, and total revenue in 2016-17 amounted to \$1,197million. Separately, CAD assisted the Government to collect taxes through airlines under the Air Passenger Departure Tax Ordinance (Chapter 140), the tax revenue collected amounted to \$2,598 million in 2016-17.

收入分析 Analysis of Revenue (2016-2017)



	百萬元\$(M)
航空交通 Air Traffic Services	808
過境導航 En-route Navigation Services	308
牌照及其他收費 Licences and Other Fees	81
Total	1,197



香港民航處

Civil Aviation Department Hong Kong

香港大嶼山香港國際機場東輝路1號民航處總部
Civil Aviation Department Headquarters, 1 Tung Fai Road,
Hong Kong International Airport, Lantau, Hong Kong

www.cad.gov.hk