



民航處
CIVIL AVIATION
DEPARTMENT

致力保障
航空安全
Maintaining
in Aviation
Safety



2012-2013 年度報告
Annual Report



我們的理想 Our Vision

致力於安全、有效率及可持續發展的航空運輸系統

Committed to a Safe, Efficient and Sustainable Air Transport System

我們的使命 Our Mission

- 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定的相關條文
- 借助先進航空導航系統科技，推動航空業發展
- 確保航空交通管理服務及系統建立高水平的安全標準，並能達到和維持相關標準
- 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
- 在香港飛行情報區內提供航空資訊服務及警報服務
- 香港搜救區內飛機出現緊急情況和發生意外時，協調搜索和救援行動
- 制定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
- 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
- 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 traffic management services and systems is established, achieved and maintained
- Maintaining a safe, orderly and expeditious flow of air traffic within the Hong Kong Flight Information Region
- Providing aeronautical information service and alerting service within the Hong Kong Flight Information Region
- Coordinating 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
- 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

我們的信念 Our Values

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

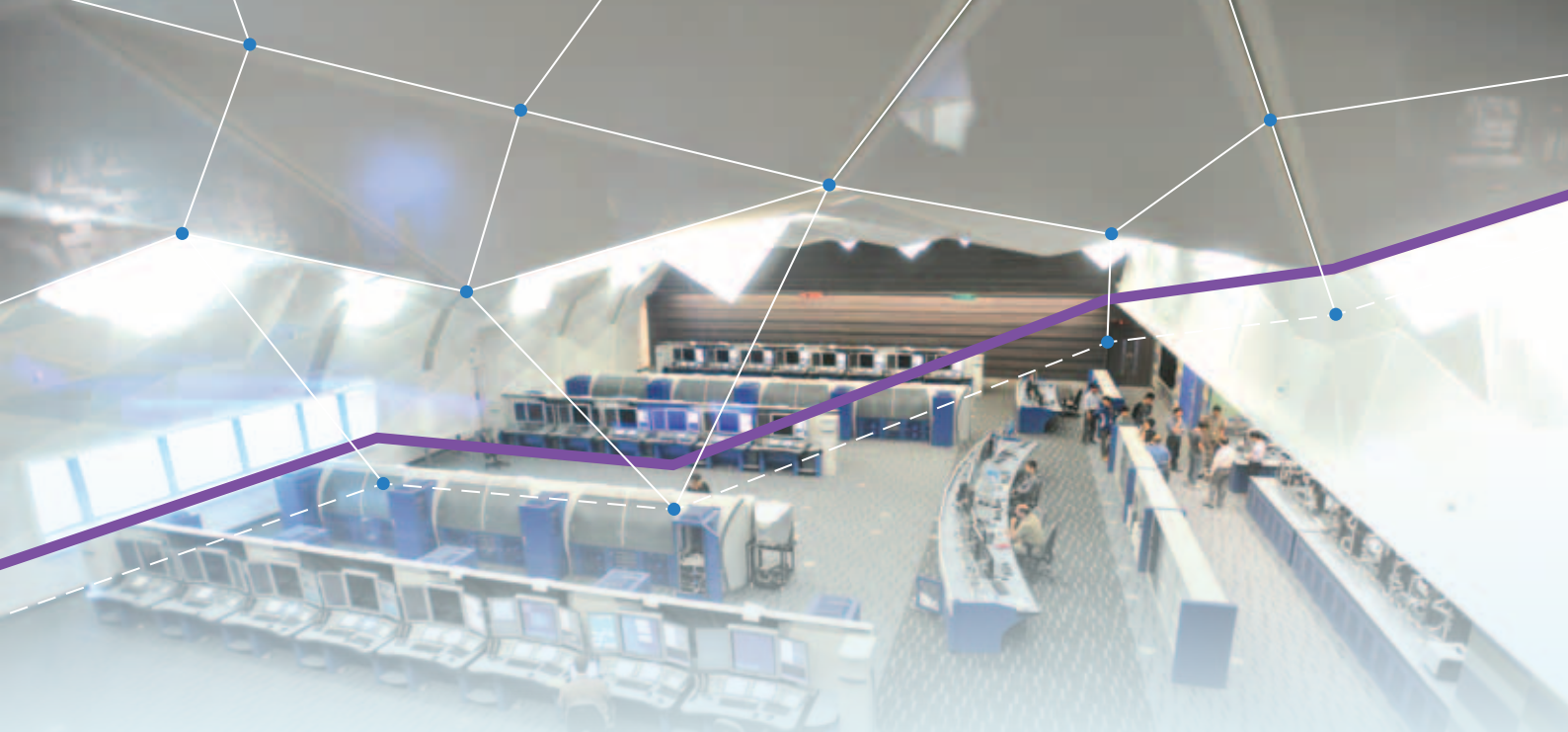


羅崇文
民航處處長

Mr Norman Shung-man LO
Director-General of Civil Aviation

對民航處來說，二零一二至一三年度是充滿挑戰和考驗的一年。經過多年努力，民航處總部大樓已於二零一二年年中落成，供分散於不同地點辦公的同事逐步遷入新總部工作，以集中資源為航空業界和公眾提供一站式的服務。

2012/13 was a year full of challenges for the Civil Aviation Department (CAD). After years of hard work, the construction of the CAD Headquarters was completed in mid-2012. The functional divisions that used to be scattered in various locations were gradually relocated to the new headquarters to provide one-stop service to the aviation community and the general public.



民航處新總部位於機場島東南面，建築面積為41 000平方米，設計以功能為本，除建有行政及培訓大樓之外，還有新建的航空交通管制中心（空管中心）和飛機意外調查設施。其他設施包括中央考試中心、多用途會議室、航空教育徑、圖書館暨資源中心等。設立教育徑的主要目的是提升公眾，特別是年輕一代，對航空業的興趣，並吸引他們投身航空業作長遠發展。航空教育徑於二零一三年一月二十八日，承蒙國際民用航空組織（國際民航組織）秘書長雷蒙·邦亞曼先生主禮開幕。為了開辦更多導賞團，讓參觀教育徑的訪客了解航空知識，我們特別開展義務導賞員計劃，招募青年制服團體成員，積極培訓他們擔任教育徑的義務導賞員。民航處新總部設置各項嶄新設施，顯示我們決意長遠持續發展香港的民航事業，而各專責分部集中於新總部工作，在管理方面實現協同效應，亦大大提升本處整體的運作效率。

乘遷入新總部之便，我們現正一併更換航空交通管制（空管）系統。更換空管系統的計劃涉及15個主要系統和三個空管訓練設施。新的空管系統全面啓用後，會是全球最先進的系統之一，運作效率和安全功能都會提高，亦有能力處理香港飛行情報區超越二零二零年的航班流量。新空管中心安裝設備的工作已於二零一三年完成，本處同事現正根據國際航空安全管理標準及程序，進行一連串嚴格的測試和安全審查。新空管系統預計可於二零一四年完成總體整合測試。待空管和系統維修人員接受運作訓練並熟習新設備後，預計新空管中心可於二零一五年投入運作。

Located at the southeast corner of the Airport Island with a total gross floor area of 41 000 m², the CAD Headquarters is functionally designed and comprises an office and training building, an Air Traffic Control Centre (ATCC) and an aircraft accident investigation building. It also accommodates a centralised examination centre, multi-purpose conference rooms, an Education Path and a library-cum-resource centre. The Education Path was designed with an objective of arousing the interest of the general public in aviation, particularly that of the younger generation with a view to attracting them to join the aviation industry as a long term career. The Education Path was officially opened by the Secretary General of the International Civil Aviation Organization (ICAO), Mr Raymond Benjamin, on 28 January 2013. A volunteer tour guide programme was launched by recruiting members of the youth uniform groups who were subsequently trained up to serve as volunteer tour guides at the Education Path. The programme serves to facilitate more visits to be conducted when visitors would be able to acquire aviation knowledge through touring the Education Path. The investments in the various new facilities at the CAD Headquarters signify our commitment to the long term sustainable development of civil aviation in Hong Kong. CAD functional divisions are now located under one roof resulting in enhanced overall operational efficiency and management synergy.

Taking the opportunity of relocating to the new headquarters, we are also in the process of replacing the Air Traffic Control (ATC) system. The project involves replacement of 15 major systems and three training facilities. When fully commissioned, the new ATC system will be one of the most advanced systems with enhanced operational and safety features. The system is designed to handle the projected volume of air traffic operating in the Hong Kong Flight Information Region (HKFIR) up to year 2030 and beyond. Following the completion of the installation of hardware in the new ATCC in 2013, my colleagues are conducting a series of stringent tests and safety audits in accordance with international aviation safety management standards and procedures. The integrated tests of the new systems are expected to be completed in 2014. ATC and system maintenance colleagues will need to undertake familiarisation and operational training and it is expected that the new ATCC will be commissioned for operational use in 2015.

處長報告

Director-General's Review

年內，香港國際機場雙跑道的運作容量，由二零一二年三月每小時63班，遞增至二零一三年三月每小時64班。機場航班升降數目則於二零一三年三月二十九日創下航空交通運作的單日新高，達1 172架次。同年，本處處理的航班升降量多達355 008架次，客運量高達5 643萬人次，兩者均創新高；與上一年度比較，增幅皆為5%左右。此外，由於亞洲區整體經濟增長，帶動全年貨運量上升3%至404萬公噸。

鑑於航空運輸服務的需求日增，我們實施了一連串改善空域和航空交通管理程序的措施，致力提高運作效率。我們經全面評估安全因素後，在相鄰跑道以儀表著陸系統進場航機の間隔標準，於二零一二年四月二日起由3海里修訂為2.5海里。新修訂の間隔標準，讓空管人員可以更有效率地安排於最後進場航迹的抵港航班在安全的情況下降落，從而增加跑道容量。

另外，本處於二零一二年六月十二日，設立區域管制扇區上、下層運作模式，把航路空域分為一個上層扇區和兩個下層扇區，並於午夜之後採用這個空域配置模式，以便處理這個時段大量從東南亞地區起飛，飛越香港飛行情報區前往東北亞地區的航班。此外，本處亦於二零一三年一月三十日，重新劃分香港西部航路空域並建立一個新的空管扇區，更有效地處理這個區域不斷增加的航班。

In the report year, the declared hourly capacity for dual runway operations at the Hong Kong International Airport (HKIA) increased from 63 in March 2012 to 64 in March 2013. In terms of daily air traffic movements, a total of 1 172 aircraft movements operated at the HKIA on 29 March 2013, setting another new record of air traffic operations on a single day. Within the report period, CAD handled a total of 355 008 aircraft movements with passenger throughput reaching 56.43 million – both being new records; representing an annual increase of about 5%. Benefitting from the overall economic growth in the region, the annual cargo throughput had increased by 3% to 4.04 million tonnes.

In view of the increasing demand for air transport services, we endeavoured wherever possible to improve operational efficiency through a series of enhancement to the airspace and air traffic management system. Having conducted a comprehensive safety assessment, the separation standard between aircraft on adjacent Instrument Landing System approaches was reduced from 3 nautical miles to 2.5 nautical miles, which became effective on 2 April 2012. The revised separation standard facilitates air traffic controllers in sequencing arrival aircraft on the final approach track in a safe and more efficient manner, which in turn would enhance runway throughput.

Besides, CAD also introduced the Upper and Lower Sectors Mode of Operations in Area Control in which the en-route airspace is segregated into an upper sector and two lower sectors with effect from 12 June 2012. This airspace configuration is applied after midnight to cater for the heavy traffic demand, typically from flights connecting between South East Asia and North East Asia that transit the HKFIR. In addition, a new control sector in the western part of the enroute airspace was established on 30 January 2013 to handle the growing traffic in this area.



在飛行標準方面，本處先後於二零一三年一月和二月，批准CAE牛津航空學院和港龍航空，開辦多機組飛行員執照（飛機）的中級階段和高級階段試驗培訓課程，訓練港龍航空12名飛行學員。這項訓練課程根據國際民航組織最新的發牌制度和着重才能的訓練概念而制定，旨在借助先進科技（例如最新型的模擬駕駛裝置）培訓學員，以逼真的駕駛艙環境，訓練學員掌握多機組駕駛技巧和管理大量資訊的能力。

國際民航組織於二零一二年十一月，在空中航行會議上通過航空系統組塊升級計劃，為航空交通管理系統的現代化提供全球統一、環保和具成本效益的運作架構。本處其後於二零一三年二月成立航空系統組塊升級策劃與實施委員會，策劃在香港實施航空系統組塊升級。在制定用於空管運作的通訊、導航及監察系統的更換策略和時間表時，本處會考慮航空系統組塊升級的要求，並參考《亞太區無縫航空交通管理計劃書》訂明的優先次序。

年內，本處同事與業界伙伴緊密合作，協力提升本港航空系統的安全水平。各位同事表現出色，又富專業精神，本人謹此衷心感謝。此外，業界伙伴多年來鼎力支持，通力合作，協助香港建立卓越航空中心的美譽，本人亦謹此致謝。展望新一年，本處定會一如既往，發揮專業精神，克服困難，掌握機遇，竭力鞏固香港作為國際和區域航空樞紐的地位。



民航處處長
羅崇文

Mr Norman Shung-man LO
Director-General of Civil Aviation

As for flight standards, CAD granted approval to CAE Oxford Aviation Academy and Hong Kong Dragon Airlines (HDA) respectively to conduct the Intermediate Training Phase and Advanced Training Phase of the HDA/CAE Joint Multi-crew Pilot's Licence (Aeroplanes) Trial Course for 12 cadet pilots in January and February 2013. The course was developed based on ICAO's new licensing regime and competency-based training concept. The course aims at making the best use of advanced technology such as the latest flight simulators to train student pilots in multi-crew operations and the skills in the management of large amount of information in the cockpit similar to the real operating environment.

ICAO endorsed the Aviation System Block Upgrades (ASBU) during the Air Navigation Conference held in November 2012, providing a framework for Air Traffic Management (ATM) systems modernisation in a globally harmonised, environmentally friendly and cost-effective manner. CAD established an ASBU Planning and Implementation Committee in February 2013 to steer relevant planning and implementation of ASBU in Hong Kong. The strategies and timeframe for the replacement of Communications, Navigation and Surveillance (CNS) systems for ATC will take into consideration the ASBU requirements and make reference to priorities stipulated in the Seamless ATM Plan for the Asia and Pacific Region.

In the report year, my CAD colleagues had been working closely with our industry partners to enhance the safety of the local aviation system. I would like to express my heart-felt gratitude for their sterling efforts and professionalism. I would also like to thank our industry partners for their unfailing support and cooperation over the years in helping to build up our reputation as a centre of excellence in aviation. Despite the challenges ahead, I am confident that all of us will, as always, continue to perform with a high level of professionalism and strive to consolidate Hong Kong's status as an international and regional aviation hub.



圖片攝於民航處總部會議室。
The photo was taken at the CAD Headquarters conference room.

後排 Back row

部門秘書 Departmental Secretary 張振聲先生 Mr Ivan Cheung Chun-shing	助理處長 (航空交通工程及標準) Assistant Director-General (Air Traffic Engineering and Standards) 李天柱先生 Mr Simon Li Tin-chui	助理處長 (航空交通管理) Assistant Director-General (Air Traffic Management) 岑兆華先生 Mr Manuel Sum Siu-wah	助理處長 (航班事務) Assistant Director-General (Air Services) 王炳輝太平紳士 Mr Wong Ping-fai, JP	助理處長 (飛行標準) Assistant Director-General (Flight Standards) 廖志勇機長 Captain Victor Liu Chi-yung
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前排 Front row

總庫務會計師 Chief Treasury Accountant 王少琮女士 Ms Melody Wong Siu-king	民航處副處長 Deputy Director-General of Civil Aviation 伍崇正太平紳士 Mr Colman Ng Shung-ching, JP	民航處處長 Director-General of Civil Aviation 羅崇文太平紳士, AE Mr Norman Lo Shung-man, JP, AE	助理處長 (機場標準) Assistant Director-General (Airport Standards) 林偉珊女士 Miss Priscilla Lam Wai-shan
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組織圖

Organisation Chart



大事紀要 Calendar of Events



2012

四月二日 2 April

在相鄰跑道以儀表著陸系統進場的航機，間隔最低標準修訂為2.5海里。

The separation minimum between aircraft on adjacent Instrument Landing System approaches was revised to 2.5 nautical miles.

四月五日 5 April

增設應急空中等候區，並實施空中等候區轉移程序。

Established additional contingency holding patterns and implemented stack swapping procedure.

六月十二日 12 June

區域管制上、下層扇區運作模式啟用。

Upper and lower sectors mode of operations implemented in Area Control.

六月三十日 30 June

經修訂的應急空中等候區及相關程序啟用。

Revised contingency holding patterns and associated procedures were implemented.



十一月十五日
15 November

位於民航處總部的控制塔模擬機投入運作，提供非常逼真的機場景象予航空交通管制員作培訓用途。

The Control Tower Simulator at the CAD Headquarters was put into operation, providing realistic simulation of airport scenery for the training of air traffic controllers.

十一月十九日
19 November

批准新西蘭的CTC Aviation Training (NZ) 公司成為民航處認可的飛行培訓和考核機構。

Granted approval to CTC Aviation Training (NZ) for conducting flying training and examinations in New Zealand.

十二月一日
1 December

航空交通控制塔使用電子飛行進程單系統。

The Electronic Flight Strip System was put into operation in the Air Traffic Control Tower.

十二月十日
10 December

民航處各分部人員正式遷入民航處新總部，集中資源為業界和公眾提供高效率的一站式服務。

Divisional staff members were relocated to the new CAD Headquarters to provide efficient one-stop service to the industry and the public.

大事紀要

Calendar of Events



2013

一月八日及二月五日 8 January and 5 February

批准CAE牛津航空學院和港龍航空開辦多機組飛行員執照（飛機）的中級階段和高級階段試驗培訓課程，對象為港龍航空的12位飛行學員。

Granted approval to CAE Oxford Aviation Academy and Hong Kong Dragon Airlines (HDA) for conducting the Intermediate Training Phase and Advanced Training Phase of the HDA/CAE Joint Multi-crew Pilot's Licence (Aeroplanes) Trial Course for HDA's 12 cadet pilots.

一月十日 10 January

實施基本導航性能RNP 1標準儀表離場程序和標準儀表進場程序。

Implemented basic-RNP1 Standard Instrument Departure and Standard Instrument Arrival Procedures.

一月二十八日 28 January

位於民航處總部的航空教育徑正式開幕。

The Aviation Education Path at the CAD Headquarters officially opened.

一月二十八日至三十日 28-30 January

與國際民航組織合辦第六屆全球航空運輸會議的會前亞太地區研討會，有超過120位來自16個亞太地區國家/政府和國際民航組織的代表參加。研討會於民航處新總部舉行。

Co-hosted the Regional Seminar in Preparation of the Sixth Worldwide Air Transport Conference at the new CAD Headquarters with the International Civil Aviation Organization (ICAO). More than 120 delegates from 16 Asia-Pacific States/Administrations and ICAO attended.



一月三十日
30 January

重新劃分的香港西部空域扇區啟用。
Revised control sectors of the western part of Hong Kong airspace implemented.

二月一日
1 February

成立航空系統組塊升級策劃與實施委員會，以策劃及實施香港的國際民航組織航空系統組塊升級工作。

Established the Aviation System Block Upgrades (ASBU) Planning and Implementation Committee to steer the planning and implementation of ICAO ASBU in Hong Kong.

二月十五日
15 February

批出廣播式自動相關監察地面站系統合約。

Awarded the contract of Automatic Dependent Surveillance-Broadcast Ground Station System.

三月二十九日
29 March

單日航班升降數目高達1 172架次，刷新香港國際機場的最高紀錄。

A total of 1 172 flights were handled at the Hong Kong International Airport (HKIA), setting a new daily record.

三月三十一日
31 March

香港國際機場雙跑道的運作容量增至每小時64班。

The declared runway capacity for dual runway operations at HKIA increased to 64 movements per hour.

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

(二零零八年四月至二零一三年三月) (April 2008 – March 2013)

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
2008-2009	296 179	-1%	46 328 005	-2%	3 426 614	-10%
2009-2010	280 221	-5%	45 764 431	-1%	3 576 923	4%
2010-2011	316 354	13%	50 298 535	10%	4 167 549	17%
2011-2012	339 133	7%	53 859 537	7%	3 923 295	-6%
2012-2013	355 008	5%	56 425 252	5%	4 039 873	3%

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

(二零零八年四月至二零一三年三月) (April 2008 – March 2013)

財政年度 Fiscal Year	航班總數* Flights Handled*	升跌百分比(比上年) % Change (from last year)
2008-2009	445 089	-4%
2009-2010	427 181	-4%
2010-2011	485 153	14%
2011-2012	531 438	10%
2012-2013	563 642	6%

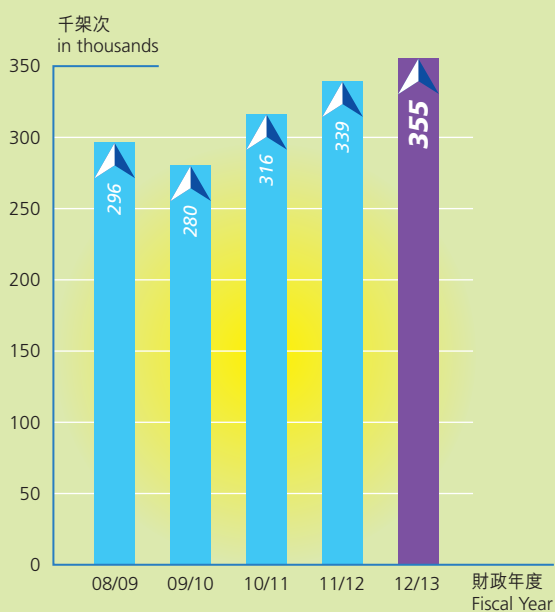
* 「航班總數」乃由香港民航處航空交通管理部每年所處理的班機數目。其中包括：

- (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；及
- (3) 由航空交通管理部處理進出澳門國際機場的航班。

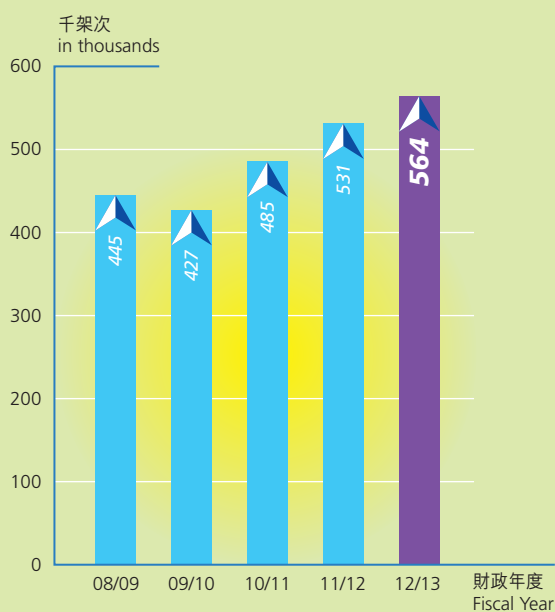
* [Flights Handled] is the total number of aircraft handled by ATMD of CAD in the year. It includes:

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

香港國際機場過往五年航機升降次數
Five-Year Aircraft Movement at HKIA



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



香港國際機場過往五年客運量
Five-Year Passenger Traffic at HKIA



香港國際機場過往五年貨運量
Five-Year Cargo Traffic at HKIA







航空交通管理

Air Traffic Management

航空交通管理部負責在國際民航組織指定的香港飛行情報區內，提供航空導航服務，包括航空交通服務，通訊、導航及監察服務，航空電訊服務，航班協調，以及搜索和救援（搜救）服務。

The Air Traffic Management Division (ATMD) is responsible for the provision of air navigation services, including air traffic services, communications, navigation, surveillance (CNS) services, aeronautical telecommunication services, schedule coordination and search and rescue (SAR) services within the Hong Kong Flight Information Region (HKFIR) as assigned by ICAO.

航空交通管理

Air Traffic Management



航空交通運作

本財政年度內，航空交通管理部處理了356 183架次在香港國際機場升降的國際及本地航班，並為207 459架次飛越香港飛行情報區的航班（當中包括44 749架次進出澳門國際機場的航班）提供航空交通管制（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5%，而飛越香港的航班數目則增加9%。

跑道升降容量

在推行空域和航空交通管理改善措施之後，香港國際機場雙跑道每小時的運作容量，由二零一二年三月的63班遞增至二零一三年三月的64班。香港國際機場更於二零一三年三月二十九日錄得1 172架次航班升降，刷新單日航班升降數目的最高紀錄。

航空交通管制主任執照年度考試和覆核

為維持高水準的空管運作，本部的訓練及安全組每年安排舉行航空交通管制主任（空管主任）的各類空管執照考試。年內，就塔台管制、進場管制和區域管制三個空管組別共舉行了172次考試。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、導師證書、搜救證書和流量管制證書。

AIR TRAFFIC OPERATIONS

During the financial year, ATMD handled 356 183 international and local aircraft movements at Hong Kong International Airport (HKIA). In addition, the Division handled 207 459 flights overflying HKFIR (including 44 749 flights into and out of the Macao International Airport). Compared with the previous year, the number of aircraft movements at HKIA and overflights increased by 5% and 9% respectively.

Runway Capacity

With the introduction of enhancement measures in airspace and air traffic management, the declared capacity per hour for dual runway operations at HKIA increased from 63 movements per hour in March 2012 to 64 movements per hour in March 2013. A new single-day record of 1 172 flight movements operated at the HKIA was set on 29 March 2013.

Annual Examinations and Revalidations of Air Traffic Control Officer Ratings

To maintain a high standard in air traffic control (ATC) operations, the Training and Safety Section of ATMD carried out annual practical examinations on ATC ratings held by Air Traffic Control Officers (ATCOs). In the year, 172 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, Instructor Certificates, SAR Certificates and Flow Control Certificates to officers who had attained their respective qualifications.

招聘和培訓空管人員

招聘和培訓見習航空交通管制主任

為應付預期的航空交通增長和人手需求，空管人員的招聘和培訓工作必須審慎規劃，嚴謹管理。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航空交通管制主任（見習空管主任），經過專門培訓後，再擢升成為空管主任。合資格的申請人須通過一連串甄選步驟，包括才能測驗筆試、工作性格測驗和面試。經初步選出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。見習空管主任由入職至全面取得專業資格，必須接受嚴格訓練，過程周密。培訓計劃各階段的訓練單元必須周詳規劃，確保見習空管主任的表現達到既定的進展基準。為符合簽發空管主任執照的要求，各訓練單元內容均包括課堂學習，以及利用空管雷達模擬器或塔台模擬機進行的模擬訓練。只有通過這兩個訓練階段的考核，受訓人員才可在合資格的導師督導下，處理「實況」航空交通，熟習所需技能。受訓人員須再通過另一次最終的「實況」考核，才准獨立工作。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職位，一般需時五年。

RECRUITMENT AND TRAINING OF ATC STAFF

Recruitment and Training of Student Air Traffic Control Officers

The recruitment and training of ATC staff has 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, ATCOs are normally recruited as Student Air Traffic Control Officers (SATCOs) to receive specialised training for progression to ATCOs. Eligible candidates will go through a series of screening steps - written aptitude test, occupational personality quiz and interview. Shortlisted candidates will then attend an Assessment Centre for a more in-depth assessment on cognitive ability and personality traits. SATCOs receive intensive training from entry until the attainment of full professional qualifications. The training programme is a comprehensive process requiring carefully staged training modules to match the established performance development benchmarks. To fulfil ATCO licensing requirements, each module involves classroom lectures and practical training in the ATC Radar Simulator or Aerodrome Simulator. Only when trainees have passed these two training stages can they progress on to handle "live" traffic under the guidance of qualified on the job training instructors to consolidate the necessary skills. After passing the final validation check, the officer will then 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 five years.



空管主任在航空交通管制中心當值。
ATCO staff working at the Air Traffic Control Centre.



本部同事在塔台模擬機接受訓練。
Divisional staff receiving training at the Control Tower Simulator.

年內，有32名見習空管主任到海外修讀基本空管課程和接受飛行訓練。海外培訓旨在增進受訓人員對空管程序、氣象、雷達操作、飛行原理等方面的航空知識，以及促進個人發展，擴闊他們對空管運作的閱歷。

為加深公眾和求職人士對空管專業的認識，年內，民航處舉辦就業講座，並安排學生參觀本處的設施。

截至二零一三年三月三十一日，空管主任的編制有297人，航空交通事務員則有114人。

Within the year, 32 SATCOs attended basic ATC courses and flying training overseas. The overseas training is to enhance their aviation knowledge in ATC procedures, meteorology, radar operations, principles of flight, and facilitate personal development as well as broaden exposure to various aspects of ATC operations.

To enable the public and potential applicants to better understand our ATC profession, CAD held career talks and arranged student visits to our facilities throughout the year.

As at 31 March 2013, the ATCO and Air Traffic Flight Services Officer establishment numbered at 297 and 114 respectively.

控制塔台全日24小時為進出機場的航機提供航空交通管制服務。
The Air Traffic Control Tower provides round-the-clock ATC services to aircraft operating at the airport.



其他職級的空管培訓

提供空管培訓是航空交通管理部的重點任務之一。本部在年內持續舉辦多項培訓課程和在職培訓。

年內，本部舉辦了43項空管培訓課程，受訓人員從中取得多項專業資格，獲發57項空管執照。此外，又為81名塔台管制主任舉辦了塔台管制複修課程，以及為159名進場管制主任和區域管制主任舉辦了雷達管制複修課程，以備他們在面對突發情況時，例如航機遇到惡劣天氣或其他緊急事故等，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、搜救、空管事故調查、飛機意外調查、安全審計、飛行程序設計、教學技巧和人力資源管理等方面的培訓，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。

ATC Training for Other Ranks

Provision of ATC training is one of ATMD's major tasks. Training courses and on-the-job training activities were conducted regularly throughout the year.

During the year, 43 ATC training courses were conducted, leading to the issuance of 57 ATC ratings and the attainment of various professional ATC qualifications. Aerodrome control refresher training courses were conducted for 81 Aerodrome Control controllers while radar control refresher training courses were held for 159 Approach Control and Area Control controllers. 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 on Safety Management Systems (SMS), Operations of Modern Aircraft, SAR, ATC Incident Investigation, Aircraft Accident Investigation, Safety Audits, Flight Procedures Design, Instructional Techniques and Human Resources Management, etc. to broaden their horizon, and enable them to undertake more specialised duties as well as taking on management and supervisory responsibilities.



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定期合辦航空交通管理概論課程，讓業界伙伴和市民更深入了解空管工作。課程舉辦經年，一直深受歡迎。

新空管程序

在相鄰跑道以儀表着陸系統進場的航機採用2.5海里間隔最低標準

經全面評估安全因素後，在相鄰跑道以儀表着陸系統進場航機的間隔最低標準，於二零一二年四月二日起，由3海里修訂為2.5海里。新修訂的間隔最低標準，讓空管人員可以更緊密地安排抵港航班在安全的情況下降落，從而盡用跑道容量。

空中等候區轉移程序

香港空域終端區內設有三個主要空中等候區，以供從東面、南面和西面進入香港飛行情報區的抵港航班在繁忙時間等候排序降落。鑑於航班從三面抵港的數量分布並不平均，個別空中等候區的航空交通需求有時會超出設定容量。為應付這些情況，本部於二零一二年四月五日實施空中等候區轉移程序。如預計航空交通會集中在某個空中等候區出現，空管單位便會啟動轉移程序，讓空管人員可以根據標準路徑和飛行高度，有秩序地從繁忙的空中等候區疏導航班到其他等候區處理。藉着這個程序，空管單位得以為數量日增的航班，繼續提供安全和有效率的航空導航服務。

如預計航空交通會集中在某個等候區出現，空中等候區轉移程序便會啟動。
Stack Swapping Procedure is activated whenever traffic overflow in a holding pattern is anticipated.

Other Training Offered

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

NEW ATC PROCEDURES

Application of 2.5 Nautical Miles (NM) Separation Minimum between Aircraft on Adjacent ILS Approaches

Having conducted comprehensive safety assessment, the separation minimum between aircraft on adjacent ILS approaches was revised from 3 NM to 2.5 NM and became operational on 2 April 2012. The revised separation minimum would facilitate air traffic controllers delivering the minimum inter-arrival spacing in a safe manner, which in turn would maximise runway throughput.

Stack Swapping Procedure

There are three primary holding patterns strategically located and established in the terminal airspace to cater for flights arriving from the east, south and west of the HKFIR that are required to join and hold in the stack awaiting a landing sequence because of traffic congestion. To address the situation when demand exceeds the designed capacity of a particular holding pattern as a result of unevenly distributed arriving traffic pattern, ATMD implemented a Stack Swapping Procedure on 5 April 2012 for ATC to divert flights from one holding pattern to another in an orderly fashion following standardised tracks and flight levels. The procedure is activated whenever traffic overflow in a holding pattern is anticipated. It effectively prepares ATC to continue providing a safe and efficient air navigation service in managing the ever increasing air traffic.



航空交通管理 Air Traffic Management

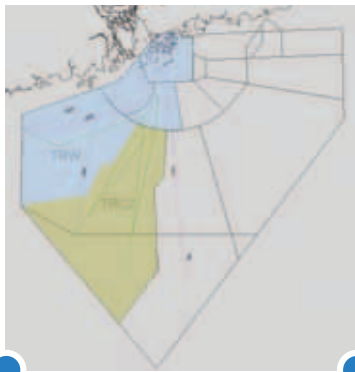
設立應急空中等候區後，即使天氣情況惡劣，空管單位也可以在確保航空安全的情況下，有條理地管理航空交通。Contingency holding patterns allow ATC to manage traffic under challenging weather situations in a safe and organised manner.

惡劣天氣情況下空中交通管理的應急措施

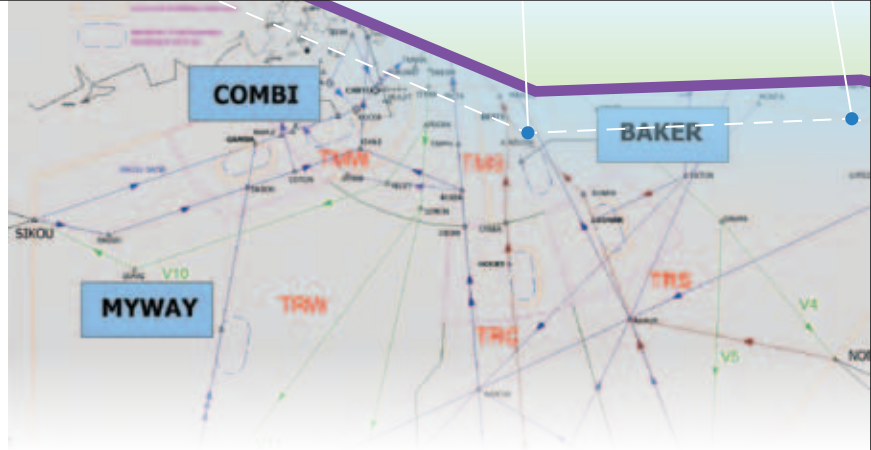
在廣泛惡劣天氣影響下管理航空交通，對空管單位是一大考驗。為此，本部於二零一二年四月五日增設一系列應急航機空中等候區，其後又於二零一二年六月三十日實施優化的應急空中等候區空管程序。每當主要空中等候區受到惡劣天氣影響而不能使用時，空管單位便會指示航機在應急空中等候區等候。這樣，即使天氣情況惡劣，空管單位也可以在確保航空安全的情況下，有條理地管理航空交通。

區域扇區上層與下層運作模式和重新劃分西部空域

在每天不同時段，各個空管扇區的航空交通量各異。二零一二年六月十二日，本部設立區域管制扇區上、下層運作模式，把航路空域分為一個上層扇區和兩個下層扇區。這種空域配置模式於午夜之後採用，以便處理這個時段大量從東南亞地區起飛，飛越香港空域前往東北亞地區的航班。此外，本部於二零一三年一月三十日重新劃分香港西部航路空域並建立一個新的扇區，以便處理這個區域不斷增加的航班。上述程序為空管單位提供更多配置空域的模式，方便空管人員因應不同扇區當前的航空交通需求量，採取最有效率的運作模式。



本部重新劃分香港西部航路空域並建立一個新的扇區，提供更多配置空域的模式，方便空管人員因應不同扇區當前的航空交通需求量，採取最有效率的運作模式。ATMD established a new sector in the western part of the enroute airspace. It provides ATC the options to configure the airspace dynamically to suit specific traffic patterns such that traffic handling efficiency can be optimised.



Contingency Measures for Traffic Handling in Adverse Weather Situations

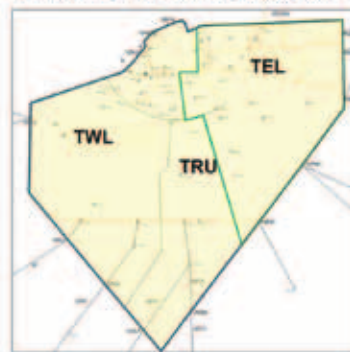
Handling air traffic under extensive adverse weather has always been a challenge for ATC. ATMD took the initiative to establish a series of additional aircraft contingency holding patterns on 5 April 2012 and streamlined the procedures for using contingency holding patterns on 30 June 2012. When the primary holding patterns are severely affected by weather rendering them not usable, ATC may instruct the flights to hold at these contingency holding patterns. These measures allow ATC to manage traffic under challenging weather situations in a safe and organised manner.

Upper and Lower Sectors Mode of Operations and Western Airspace Sectorisation

The traffic volume at different ATC sectors varies throughout the day. On 12 June 2012, ATMD introduced the Upper and Lower Sectors Mode of Operations in Area Control which segregates the en-route airspace into an upper sector and two lower sectors. This airspace configuration is applied after midnight to cater for the heavy traffic demand, typically from flights connecting South East Asia and North East Asia that transit the Hong Kong airspace. In addition, ATMD established a new sector in the western part of the enroute airspace on 30 January 2013 to handle the growing traffic in this area. These procedures provide ATC the options to configure the airspace dynamically to suit specific traffic patterns such that traffic handling efficiency can be optimised.

Configuration of Sector Consolidation

3 TRs & 2 ERs Mode of Operation between 1800 and 2000 UTC



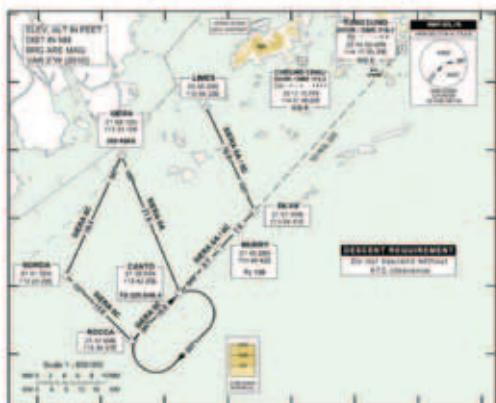
TR1	TR2	TR3
TRU	TWL	TEL

ER1	ER2
ERE(+NN+SN)	ERW(+DS+SB)

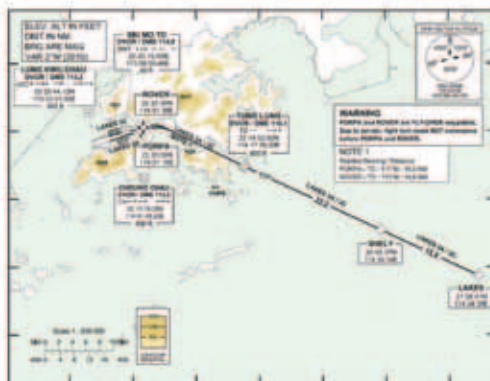
本部設立區域管制扇區上、下層運作模式，以便處理大量從東南亞地區起飛，飛越香港空域前往東北亞地區的航班。

ATMD introduced the Upper and Lower Sectors Mode of Operations in Area Control to cater for the heavy traffic demand, typically from flights connecting South East Asia and North East Asia that transit the Hong Kong airspace.

SIERA 6A / 6C STAR RWY 07L / 07R



LAKES 3A / 3C SID RWY 07L / 07R



新的性能導航飛行程序採用衛星導航技術和RNP 1規範，優化香港國際機場的標準儀表離場和進場程序。The new PBN flight procedures utilise satellite navigation technology and RNP 1 specification to enhance the SID and STAR procedures for HKIA.

實施RNP 1標準儀表離場程序和標準儀表進場程序

Implementation of RNP 1 Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR) Procedures

二零一三年一月十日，民航處在香港終端區實施新的性能導航飛行程序。新飛行程序採用衛星導航技術和RNP 1規範，優化香港國際機場的標準儀表離場和進場程序，簡化航路結構，把進入香港國際機場的標準儀表進場程序數目，從24個大幅減少至10個，大大提升空管的整體運作效率。

CAD has implemented new Performance-Based Navigation (PBN) flight procedures in Terminal Area since 10 January 2013. The new flight procedures utilise satellite navigation technology and RNP 1 specification to enhance the SID and STAR procedures for HKIA. As a result, the number of STARs for flights operating into HKIA has greatly reduced from 24 to 10. It has thus enhanced the overall ATC operational efficiency.

珠江三角洲（珠三角）地區航空交通管理計劃

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

年內，香港民航處、國家民用航空局與澳門民航局組成的珠三角地區空管規劃與實施三方工作組，繼續研究及推進包括飛行程序、航道和設置相關系統的優化措施，目標是加強三方的協調，提高珠三角空域使用效能及航空交通管理效率，從而提升區域航空運輸能力。

During the year, the PRD Air Traffic Management Planning and Implementation Tripartite Working Group formed by the Hong Kong CAD, the Civil Aviation Administration of China (CAAC) and the Macao Civil Aviation Authority continued to study and pursue enhancement measures. These include flight procedures, air routes, as well as related ancillary systems provision that will enhance collaboration among the three sides and improve airspace utilisation and air traffic management efficiency in the PRD region so as to increase regional air transport capability.



在珠江三角洲地區空中交通管理規劃與實施方案專題工作組會議上，三方工作組商討如何進一步推動優化珠三角空管程序與空域結構。The Tripartite Working Group discussed ATC procedures and airspace enhancement measures during the Pearl River Delta Region Air Traffic Management Planning and Implementation Supervisory Group Meeting.

電訊服務

本部航空通訊組年內處理的資訊量輕微上升，其中通過固定航空通訊服務處理的訊息達38 411 677個，較上一年度增加0.45%。至於航空氣象廣播服務，年內為航機提供氣象報告合共335 771次，數字與上年度相若。

航班協調

自二零零八年成立以來，香港機場航班協調辦公室一直根據國際航空運輸協會發行的《世界航班時刻準則》，採用中立、透明和非歧視的協調機制，確保高效使用有限的機場資源。年內，航班協調辦公室共處理372 000宗香港國際機場的航班升降時刻申請。

自二零一二年七月三日開始，航班協調辦公室由航班事務部調編至航空交通管理部，以方便與空管的直接溝通，從而提高時刻分配工作的效率。

安全管理系統

航空交通管理部繼續致力推行和優化安全管理系統，確保提供安全的航空交通服務。本部實施的安全風險管理和安全保證都符合國際民航組織的條文和民航處的監管規定。在對航空交通管理系統、儀器和程序作出重大變動前，本部會先進行安全風險評估和採取緩解措施。

就此，民航處舉辦了兩個「制定安全案例」工作坊，以提升參與更換空管系統計劃的人員制定安全案例的能力。本部也於年內就主要職能範疇進行了四次內部安全審計，確保安全管理系統不斷改善，精益求精。

TELECOMMUNICATIONS SERVICES

The total number of messages handled by the Telecommunications Unit of the Division increased slightly in the year. On Aeronautical Fixed Service, 38 411 677 messages were handled, representing an increase of 0.45% compared with last year. On Aeronautical Broadcast Service, the total number of weather messages broadcast to aircraft in flight amounted to 335 771, which was very close to the figure last year.

SCHEDULE COORDINATION

Since its establishment in 2008, the Hong Kong Schedule Coordination Office (HKSCO) has adopted a neutral, transparent and non-discriminatory schedule coordination mechanism in accordance with the International Air Transport Association's Worldwide Slot Guidelines to ensure the efficient utilisation of scarce airport resources. During the year, the HKSCO processed 372 000 applications for slots at HKIA.

With effect from 3 July 2012, HKSCO was re-deployed from the Air Services Division to ATMD with a view to facilitating its direct communications with ATC in order to enhance the efficiency in slot allocation.

SAFETY MANAGEMENT SYSTEM

ATMD has maintained its effort in the implementation and continuous optimisation of its SMS to ensure that a high level of safety is maintained in the provision of air traffic services. Safety risk management and safety assurance are applied in accordance with ICAO provisions and CAD regulatory requirements. Safety risk assessments are conducted and mitigation processes are introduced before any significant changes to the air traffic management systems, equipment and procedures can be implemented.

In this connection, two Safety Case Development Workshops were conducted by CAD to enhance the competent level of CAD staff in safety case development in association with the Replacement of ATC System Project. Four internal safety audits were also carried out on different key functional areas during the report period to ensure continuous SMS improvement.



二零一二年十二月，本處聯同政府其他部門和中國人民解放軍駐港部隊，舉行搜救演習。
A SAR Exercise was conducted by the department with the participation from various government departments and the People's Liberation Army Hong Kong Garrison in December 2012.

本部繼續為員工提供合適的安全管理系統培訓，推廣安全文化。我們根據有系統的安全管理系統培訓計劃，向所有參加內部培訓課程的學員簡介安全管理系統，以便在學員入職初期灌輸安全管理概念。

搜救服務

年內，共有九名空管主任完成搜救培訓課程，取得搜救資格。

本處於二零一二年十二月舉行一次搜救演習，參與的政府部門包括水警、消防處、海事處和政府飛行服務隊。中國人民解放軍駐港部隊也積極參與這次演習。

一如以往，本部繼續派員出席本地和國際搜救會議，以及參與香港機場飛機緊急事故演習，以維持所需的搜救效率並掌握相關知識。

海外空管會議和研討會

年內，航空交通管理部繼續積極參與由國際民航組織、民用空中航行服務組織和其他航空機關舉辦的海外會議及研討會，交流和推動合作，促進亞太區以至全球航空交通管理的持續發展。

In promoting safety culture, ATMD continued its effort to provide staff with appropriate SMS training. A structured SMS training programme has been put in place to provide SMS briefings to all trainees attending internal training courses to instil the concept of safety management during the early stage of their career.

SEARCH AND RESCUE (SAR) SERVICES

During the year, nine ATCOs completed their SAR training and obtained their SAR qualification.

In December 2012, a SAR Exercise was conducted by the division with the participation from various government departments including the Government Flying Service, Marine Police, Fire Services Department and Marine Department. The People's Liberation Army Hong Kong Garrison also took an active role in the exercise.

In an effort to upkeep the SAR efficiency and associated knowledge, the division participated in local and international SAR meetings and attended airport and aircraft emergency drills.

OVERSEAS ATC MEETINGS AND CONFERENCES

During the year, the Division continued to actively participate in overseas meetings, seminars and conferences organised by ICAO, Civil Air Navigation Services Organisation and other aviation authorities to exchange views and foster cooperation with our international counterparts. This active networking process contributed to the continuous development of air traffic management regionally and globally.

航空交通工程及標準

Air Traffic Engineering and Standards

航空交通工程及標準部負責設計、規劃、統籌和提供航空交通管制（空管）系統、雷達、導航儀器和通訊設備，並監管香港空中航行服務（包括調查航空事故），以及簽發航空交通管制員執照和相關級別。

The Air Traffic Engineering and Standards Division (AESD) is responsible for the design, planning, coordination, and provision of air traffic control (ATC) systems, radars, navigational aids, communication facilities, regulating Hong Kong air navigation services including conducting incident investigation, and issuing air traffic controller licences and the associated ATC ratings.



航空交通工程及標準

Air Traffic Engineering and Standards

民航處總部

年內，航空交通工程及標準部繼續全力以赴，按時完成民航處總部工程項目，務使香港的民航業得以長期持續發展。總部的資訊和通訊科技設施，包括應急伺服器、自動化用戶電腦數據備份、網絡儲存設施、電腦網絡和伺服器、室內外無線通訊設施等，已於二零一二年十月如期安裝和整合。民航處各分部隨後於二零一二年年底陸續遷入新總部，為航空業界和公眾提供一站式服務。我們也致力推動環保，提供由本部資訊科技管理組特別研發的電子工具，鼓勵節約用紙，各項措施喜見成效。

更換空管系統

現有各個空管系統，由香港國際機場於一九九八年遷到赤鱘角使用至今。為維持穩定可靠和高水準的空管系統，以支援安全和高效率的航空交通服務，本處正在陸續更換空管系統。相關的系統安裝與驗收工作經已展開。待新系統完成測試，並向相關人員提供充分的技術和操作培訓後，新空管中心預計於二零一五年啟用。

CAD Headquarters

During the year, AESD continued its efforts in the timely completion of the CAD Headquarters project, with the objective of achieving long term sustainable aviation development in Hong Kong. Installation and integration of the information and communications technology (ICT) facilities of the Headquarters were completed in October 2012 as scheduled. The facilities included contingency servers, automated user computer data backup, network-based storage facilities, computer network and servers, indoor and outdoor Wi-Fi facilities, etc. Various CAD functional divisions were relocated to the new CAD Headquarters in end 2012, providing one-stop service to the aviation community and the general public. Initiatives for migration towards a greener office were implemented with encouraging results through the promotion of paper-saving work habits and customised electronic tools developed by the division's Information Technology Management Unit (ITMU).

Replacement of ATC Systems

To maintain a high-standard, stable and reliable ATC system to support safe and efficient air traffic services, work is in progress to replace the existing ATC systems which have been in use since the relocation of Hong Kong International Airport to Chek Lap Kok in 1998. Equipment installation and acceptance tests of the new ATC systems has commenced. Upon completion of system tests, as well as adequate technical and operational training for relevant staff, the new Air Traffic Control Centre (ATCC) is expected to commence operation in 2015.



在航空情報管理中心測試新安裝的航空資訊管理系統。
Testing the new Aeronautical Information Management System at the Aeronautical Information Management Centre.

民航處總部航空交通管制中心新安裝的航空交通管理系統。
A new Air Traffic Management System is installed at CAD Headquarters' ATCC.



國際民航組織航空系統組塊升級

二零一二年十一月，國際民航組織在第12次空中航行會議上通過航空系統組塊升級計劃，為航空交通管理系統的現代化提供全球統一、環保和具成本效益的架構。民航處於二零一三年二月成立航空系統組塊升級策劃與實施委員會，並得到機場管理局和航空業界支持，策劃在香港實施航空系統組塊升級。在制定用於空管運作的通訊、導航及監察系統的更換策略和時間表時，本部會考慮航空系統組塊升級的要求，並參考《亞太區無縫航空交通管理計劃書》訂明的優先次序。本部現正進行詳細的市場調查，以敲定更換系統的時間表和方法。

持續發展安全管理系統，以支援穩妥的通訊、導航及監察設備和重要的屋宇設施

憑着同事共同努力，本部在二零一二年獲航空交通管理標準組頒發安全管理系統證書。維修服務機構也繼續改善安全管理系統，使維修工作更為安全。此外，本部定期召開檢討會議，有系統地覆檢安全管理系統，務求精益求精。年內，我們致力推動安全意識，並會繼續舉辦安全訓練和推廣活動。

另外，本部於年內已全面評估新空管系統的安全風險，確保系統的整體概念和設計均符合現有安全標準的嚴格要求。

民航處總部塔台模擬機的運作。 Operation of the Control Tower Simulator at the CAD Headquarters.



The International Civil Aviation Organization (ICAO) Aviation System Block Upgrades

ICAO endorsed the Aviation System Block Upgrades (ASBU) during the 12th Air Navigation Conference held in November 2012, providing a framework for Air Traffic Management (ATM) systems modernisation in a globally harmonised, environmentally friendly and cost-effective manner. With the support from Airport Authority Hong Kong (AAHK) and the aviation community, CAD established an ASBU Planning and Implementation Committee in February 2013 to steer relevant planning and implementation of ASBU in Hong Kong. The strategies and timeframe for the replacement of Communications, Navigation and Surveillance (CNS) systems for ATC will take into consideration the ASBU requirements and make reference to priorities stipulated under the Seamless ATM Plan for the Asia and Pacific Region. A detailed market survey was being conducted to firm up the timeframe and methodology for the CNS replacement plan.

Ongoing Development of the Safety Management System in Support of Provision of Safe CNS and Critical Building Services

With concerted efforts of colleagues, AESD was awarded the Safety Management System (SMS) Acceptance Certificate by the Air Traffic Management Standards Office in 2012. The maintenance services providers also improved their safety management systems with a view to further enhancing maintenance safety. In addition, we conducted regular review meetings to provide a forum for systematic review so as to achieve continuous improvement in SMS. Throughout the year, AESD maintained its momentum in safety promulgation and would continue to organise safety training and promotion activities.

AESD also completed a comprehensive safety risk assessment review of the new ATC systems during the year to ensure that the overall system concept and design was compliant with the stringent requirements of the established safety standards.



承蒙航空業界支持和參與，航空系統組塊升級策劃與實施委員會，於二零一三年二月召開第一次會議。
With the support and participation from the aviation community, the 1st meeting of the ASBU Planning and Implementation Committee was convened in February 2013.

衛星通訊、導航及監察/航空交通管理系統

為遵從國際民航組織的全球空中航行計劃和航空系統組塊升級計劃，以策劃和實施衛星通訊、導航及監察/航空交通管理系統，本部已開發及使用八個相關系統，進展良好：

(一) 飛前放行指示雙向數據鏈路服務

截至二零一三年三月底，飛前放行指示數據鏈路服務的使用率為76%，使用服務的航空公司則增至68家。預計未來數年會有更多航機使用這項服務，讓空管人員與飛行員的通訊效率進一步提升。

(二) 航空電訊網、航空交通服務訊息處理系統、航空交通服務設施間數據通訊

為配合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，香港與澳門之間的航空交通服務訊息處理系統和航空電訊網已投入運作。二零一二至二零一三年，本部與北京和曼谷進行了多項測試，並計劃在二零一四年投入運作。本部已經安排與東京、馬尼拉、台北和其他鄰近地區的航空交通電訊當局進行更多測試，以配合這些地區未來數年的設備更換計劃。

另外，本部先後在二零零七年二月和二零一二年十一月，利用航空固定電訊網與三亞和台北實施航空交通服務設施間數據通訊，以加強航空安全，並提升與毗鄰空管中心通訊的運作效率。

(三) 先進場面活動引導和控制系統

先進場面活動引導和控制系統有助加強監察飛行區內航機和車輛移動的情況。該系統設有衝突和跑道入侵警告功能，可以提高機場的空管安全和效率。本部已經與系統供應商洽購一套測試評估系統，以持續提升先進場面活動引導和控制系統的性能。該系統已於二零一二年四

SATELLITE-BASED CNS/ATM SYSTEMS

To comply with the ICAO Global Air Navigation Plan (GANP) and ASBU for planning and implementing satellite-based CNS/ATM systems, the division made good progress on the development of eight CNS/ATM systems as highlighted below:-

(i) Pre-Departure Clearance Two-way Datalink Service

The utilisation rate of the Pre-Departure Clearance Datalink Service was 76% and the number of participating airlines increased to 68 as at the end of March 2013. It is anticipated that more aircraft will use the service to enhance efficient communication between ATC staff and pilots in the coming years.

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

In accordance with the ICAO Asia-Pacific Regional Aeronautical Telecommunication Network (ATN) and Air Traffic Service Message Handling System (AMHS) Implementation Plan, the new ATN and AMHS circuit between Hong Kong and Macao was put into operation. Further tests and trials with Beijing and Bangkok were conducted in 2012-13 and planned for operational use in 2014. More tests have been arranged with Tokyo, Manila, Taipei and other adjacent air traffic service authorities to match with their system replacement roadmaps in the coming years.

The Air Traffic Service Inter-facility Data Communication over Aeronautical Fixed Telecommunication Network with Sanya and Taipei was put into operation in February 2007 and November 2012 respectively, enhancing flight safety and operational efficiency in communication with adjacent ATC centres.

(iii) Advanced Surface Movement Guidance and Control System

The Advanced Surface Movement Guidance and Control System (A-SMGCS) has been providing enhanced surveillance of aircraft and vehicle movements on the airfield, with conflict and runway incursion alerting functions available for added ATC safety and efficiency in the airport. For continuous improvement, AESD arranged with the A-SMGCS equipment supplier for the provision of a test and evaluation system, which was commissioned in April

月投入服務，可以加強先進場面活動引導和控制系統的保養支援。鑑於機場環境時有轉變，本部於二零一二年安排了供應商檢測先進場面活動引導和控制系統訊號的可靠度和覆蓋範圍，收集訊號覆蓋情況和性能表現數據，以採取措施提升系統表現。

(四) 廣播式自動相關監察

廣播式自動相關監察地面站系統合約已於二零一三年二月批出。民航處選定八個偏遠地點安裝地面站，監察在香港飛行情報區過境和低空飛行並裝設廣播式自動相關監察機載設備的飛機。在亞太地區空中航行規劃和實施小組第23次會議和民航局局長第49次會議期間，民航處大力推動利用廣播式自動相關監察數據進行安全監察和分析，並倡議共用監察結果，以提高區內的航空安全。民航處又計劃發展一套廣播式自動相關監察數據分析系統，監察香港飛行情報區內裝設了廣播式自動相關監察機載設備的飛機。

(五) 抵港航機排序系統

本部採購抵港航機排序系統，以提升航班準時抵港率，善用空域，並為空管人員提供自動化服務。提升系統功能的工作，包括改善處理復飛程序，配合標準儀表進場程序的改動，以及實行基本RNP 1標準儀表進場程序，已於二零一三年一月完成。

2012 to strengthen the maintenance support service for the equipment. To cater for the on-going changes of the airport environment, the division has engaged the equipment supplier to conduct an integrity and coverage check of the A-SMGCS to collect signal coverage and performance data for implementation of enhancement measures.

(iv) Automatic Dependent Surveillance-Broadcast

The Automatic Dependent Surveillance-Broadcast (ADS-B) ground station system contract was awarded in February 2013. Eight remote sites have been selected for the installation of ADS-B ground stations to provide surveillance for both en-route and low-flying ADS-B equipped aircraft within the Hong Kong Flight Information Region (HKFIR). During the 23rd meeting of the Asia and Pacific Air Navigation Planning and Implementation Regional Group and the 49th Conference of Directors General of Civil Aviation, CAD strongly promoted the use of ADS-B data to perform safety monitoring and analysis, and promulgated the sharing of monitoring results to enhance aviation safety within the region. CAD also outlined its plan to develop a system for ADS-B data analysis to facilitate the monitoring of ADS-B equipped aircraft within the HKFIR.

(v) Arrival Manager System

The Arrival Manager (AMAN) System was procured to help achieve higher on-time arrival rate, more efficient use of airspace and automated service to controllers. Further enhancement of system features, including improvement on handling missed approaches, Standard Terminal Arrival Route (STAR) changes, and implementation of Basic Required Navigation Performance (RNP-1) STAR configuration, were completed in January 2013.



在大帽山雷達站安裝和測試廣播式自動相關監察地面站。
Installation and testing of ADS-B ground stations at Tai Mo Shan Radar Station.

(六) 為國際民航組織新飛行計劃書和航空交通服務訊息格式而設的前置處理器

為符合國際民航組織於二零一二年十一月十五日實施的飛行計劃書和航空交通服務訊息格式新規定，本部已早於二零一一年十月完成為現有的航空資料庫和飛行數據處理系統開發前置處理系統，並於二零一二年三月完成內部測試。與其他空中航行服務機構的測試其後也於二零一二年十月完成。新的飛行計劃書格式已在國際民航組織所訂的期間，即二零一二年十一月十二日至十七日，順利完成過渡並投入運作。

(七) 陸基增強系統

陸基增強系統能支援香港國際機場採用性能導航，以回應全球對善用空域的訴求。該系統可以提高全球衛星導航系統的準確度，使在覆蓋範圍內飛機的進場和著陸程序更為精確。本部於二零一一年完成系統的初步選址研究，並於二零一二年開發一套處理地政總署香港衛星定位參考站網數據的設施，結合香港國際機場全球衛星導航系統監測站收集到的數據，設立全港衛星數據庫，以便通過國際民航組織電離層研究工作組與周邊地區合作，共同研究亞太地區上空的電離層對陸基增強系統性能的影響。

(八) 電子飛行進程單系統

為協助新空管中心和航空交通控制塔順利改以無紙方式運作，本部安排了香港國際機場控制塔人員使用電子飛行進程單系統。年內完成控制塔人員的相關培訓和操作評估後，系統於二零一二年十二月投入運作。

電子飛行進程單系統的工程合約包括提供綜合顯示器，以集中顯示來自多方面的運作資料，方便控制塔人員操作。綜合顯示器的技術測試和運作評估，定於二零一三年進行。

(vi) Front End Processing System for New ICAO Flight Plan and Messages

In order to meet the new ICAO requirements on flight plan and air traffic service messages format by 15 November 2012, AESD's development of two front end processors for the Aeronautical Information Database and the Flight Data Processing System was completed successfully in October 2011. Internal testing was completed in March 2012, and testing with other air navigation service providers (ANSPs) were completed in October 2012. With the Front End Processing System put into operational use, transition to the new flight plan format within the ICAO defined period, i.e. from 12 to 17 November 2012, was successful.

(vii) Ground-Based Augmentation System

Ground-Based Augmentation System (GBAS) supports the implementation of Performance-Based Navigation for addressing global demands on the efficient use of airspace capacity. It augments the accuracy of the Global Navigation Satellite System (GNSS) and supports optimisation of procedures for precision approach and landing operations within its area of coverage. A GBAS siting study was completed in 2011 and a facility was successfully developed in 2012 for processing data captured by the Hong Kong Satellite Positioning Reference Station Network of the Lands Department. Together with the data collected by the GNSS Monitoring Station in HKIA, a territory-wide satellite database was established to enable the collaboration with neighbouring states through the ICAO Ionospheric Studies Task Force for studying ionospheric effect on GBAS performance in the Asia and Pacific regions.

(viii) Electronic Flight Strip System

To facilitate a smooth transition to the electronic flight strip environment in the new ATCC and the ATC Tower, an electronic flight strip system (EFSS) was arranged for operational use by tower controllers at HKIA. Having completed relevant training and operational evaluation, EFSS was put into operation in December 2012.

As part of the EFSS contract, Integrated Display Units (IDU) were provided to concentrate and present operational information from multiple sources to enhance operation of tower controllers. Technical testing and operational evaluation of IDU are scheduled in 2013.



控制塔台使用電子飛行進程單系統。
Operation of the EFSS in the Air Traffic Control Tower.

優化通訊、導航及監察和航空交通管理系統的維修安排

為加強空中航行服務，本部採用風險為本模式，改善通訊、導航及監察/航空交通管理系統的現行維修安排。本部聯同維修服務機構檢視現行維修安排，按現有和新系統的設備狀況和性能，改善並實施標準維修程序，務求迅速回應系統維修要求，從而提升系統運作效率和服務質素。年內，本部已把綜合維修計劃和維修措施納入標準維修程序，以涵蓋現有的通訊、導航及監察/航空交通管理系統、機電系統、屋宇設備和電子裝置。

機場協同決策

香港國際機場以至珠江三角洲各個機場，均認同機場協同決策制度有助改善航機進場和續航程序，從而提升機場各方的運作效率。為配合本港發展和推行機場協同決策制度，本部主導開發試行系統，並於二零一二年九月推出試行平台，供機場各方試用。二零一二年年底和二零一三年年初，本部和機場管理局、航空公司、地勤服務公司等參與機構舉行檢討會議，得悉試行結果獲業界讚許和大力支持，為日後其他試行計劃，以及與業界實施互通機場協同決策訊息，奠定良好基礎。

二零一二年八月，本部同事向機場管理局、航空公司、地勤服務公司等簡報機場協同決策系統試行平台。
AESD staff briefing AAHK, airlines and ground handlers on CDM Trial Platform in August 2012.

Enhanced Maintenance for CNS and ATM Systems

With a view to strengthening the provision of air navigation services, the division adopts a risk-based approach to enhance the existing maintenance practice for CNS/ATM systems. Current maintenance practices were reviewed with maintenance service providers. Standard maintenance procedures of both existing and new CNS/ATM systems were enhanced for providing faster response to maintenance issues, hence enhancing operational efficiency and service quality based on equipment conditions and system performance. Comprehensive maintenance schemes and maintenance initiatives for the existing CNS/ATM systems, electrical and mechanical systems, building services facilities and electronics installation were adopted as standard procedures within this year.

Airport Collaborative Decision Making

Airport collaborative decision making (A-CDM) is recognised as one of the strategic drivers in HKIA as well as airports in the Pearl River Delta region to enhance flight arrival and turnaround processes and hence operational efficiency of various airport stakeholders. To facilitate the development and implementation of A-CDM in Hong Kong, AESD took the lead in the development of the A-CDM Trial Platform which was successfully launched for trial use by airport stakeholders in September 2012. Review meetings were held with participating organisations including AAHK, airlines and ground handlers in late 2012 and early 2013 with positive feedback and strong support received for further trials/operational use of CDM information.



航空交通管理標準組

航空交通管理標準組負責確保本港提供的空中航行服務，達到並維持在所訂的最高安全水平。

安全監督工作

為持續監察航空安全，航空交通管理標準組年內為航空交通管理部和航空交通工程及標準部進行了兩次審計和26次安全檢查。審計內容包括查核服務機構有否遵守安全管理系統的規管要求，並重點審查安全政策/目標和促進安全元素的實施成效。檢查範圍包括航空交通管理的運作、程序、培訓和考試、安全管理系統的實施、空管設備/系統、安全事故調查，以及安全建議的跟進行動。檢查人員檢查了多個設施和工作單位，包括空管中心、控制塔、航空情報中心、備用空管中心、備用控制塔、培訓組、雷達模擬機和塔台模擬機。此外，又檢查了空中航行服務的其他領域，例如通訊、導航及監察（包括航空網絡中心）、航空氣象、搜索和救援、空中航行服務程序——航空器運行和航空資訊服務（包括繪製航圖）。

全賴同事群策群力，本部實施的安全管理系統工作於二零一二年順利完成，並獲航空交通管理標準組簽發安全管理系統證書。因應部門的監察要求，負責電子工程維修的服務機構也設置和使用了安全管理系統，確保維修工作安全可靠。通過空中航行服務標準協調會議，航空交通管理標準組和空中航行服務機構定期檢討安全管理的相關事宜，推動安全管理系統持續發展和改進。

航空交通管理標準組的職責之一，是聯同航空交通管理部的調查人員，就所有空管事故進行初步調查，然後再按既定指引，確定調查的形式。

航空交通安全評核委員會每半年召開會議，檢討空管事故和其他安全事故。委員會成員包括飛行標準及適航部、航空交通管理標準組和航

AIR TRAFFIC MANAGEMENT STANDARDS OFFICE (ATMSO)

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

Safety Oversight Activities

For ongoing safety regulatory surveillance, ATMSO conducted two audits and 26 safety inspections on ATMD and AESD in 2012-13. The audits covered the regulatory compliance of the service providers' SMS with a focus on the effective implementation of safety policy/objectives and safety promotion elements. The inspections included ATM activities in operations, procedures, training, examinations, SMS implementation, ATC equipment/systems, safety occurrences investigations, and follow-up actions arising from safety recommendations. Facilities visited by the inspectors included the ATCC, Control Tower, Aeronautical Information Centre, Backup ATCC and Backup Tower, Training Unit, radar simulator and Tower simulator. Inspections on CNS (including the Aeronautical Network Centre), meteorological information, search and rescue, Procedures for Air Navigation Services—Aircraft Operations and Aeronautical Information Services (including aeronautical charting) domains of air navigation services were also conducted.

Through concerted efforts of colleagues, implementation of AESD SMS was successfully completed in 2012 and the division received an SMS acceptance certificate issued by ATMSO. In compliance with regulatory requirements of the department, the electronics engineering maintenance services provider also developed and implemented its SMS to ensure the safety of maintenance work. Additionally, through the Air Navigation Services Standards Coordination Meeting, ATMSO regularly reviewed ANSP issues pertinent to the implementation of SMS to promote continual development and improvement.

As part of its duties, ATMSO participated in the preliminary investigations of all ATC incidents jointly with ATMD investigators. A decision would then be made as to the form of investigation to be conducted in accordance with established provisions.

Review on ATC incidents and other safety occurrences is conducted half yearly by the Air Traffic Safety Assessment Committee, which comprises representatives from the Flight Standards and Airworthiness Division,

空交通管理部的代表，以及本地主要航空公司和政府飛行服務隊的航空安全代表。航空交通管理標準組繼續監察事故後調查報告所提出的安全建議，跟進執行進展和成效。

年內，航空交通管理標準組積極參與更換空管系統的項目，履行安全監督的職責並提供意見，確保新系統安全過渡。

為客觀和有系統地加強安全監察措施，空中航行服務機構必須訂立安全表現指標和完善的實行計劃，以達到航空交通管理標準組所認可的安全表現目標，並定期向該組提交相關數據，作安全監察之用。

文件編製

航空交通管理標準組定期覆檢和更新現有規管文件，確保內容準確、有效和符合現況。年內共發出兩份有關安全事項和空管執照規定要求的《空中航行服務資料通告》。

空管主任執照

航空交通管理標準組的重要職責之一，是根據《國際民航公約》附件1的標準和《1995年飛航（香港）令》的規定，執行空管主任執照簽發制度。年內，該組共發出136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206份空管級別執照和合格證書。

與資訊科技管理組合作開發的電子空管主任執照數據庫於年內啓用，提升了處理空管主任執照程序的效率。該系統將會擴展至與航空交通管理部共用，為申請、處理和簽發空管主任執照、空管級別執照和證書提供一站式服務。

根據《國際民航公約》和《1995年飛航（香港）令》的規定，航空交通管理部獲批准成為認可培訓組織，可為航空交通管制員提供培訓。航空交通管理部舉辦的空管培訓課程，必須依據《國際民航公約》附件1的規定開辦，並須接受航空交通管理標準組監管。

ATMSO, ATMD, flight safety personnel of major local airline operators and the Government Flying Service. ATMSO continued to monitor the progress and effectiveness of post-incident follow-up actions on the recommendations put forward in the investigation reports.

As part of the safety regulatory oversight responsibilities, ATMSO participated actively in the ATC systems replacement project to provide inputs with a view to facilitating the safe transition to the new systems.

To enhance safety monitoring measures with a systematic and objective-based approach, ANSP was required to establish safety performance indicators together with structured action plans to achieve safety performance targets as agreed by ATMSO. Such safety performance measurements were periodically provided to ATMSO for regulatory oversight.

Documentations

ATMSO conducted regular reviews and updates on existing regulatory documents to ensure that they remain accurate, valid and up-to-date. Two Air Navigation Services Information Notices were promulgated in this year on relevant safety issues and ATC licensing requirements.

ATC Personnel Licensing

One of the important functions of ATMSO is to administer the ATC licensing scheme in accordance with the standards in ICAO Annex 1 and the requirements of Air Navigation (Hong Kong) Order 1995. During the report period, ATMSO processed 136 initial awards of ATC Licences, ATC Ratings and Certificates of Competency, as well as 206 renewals of Ratings and Certificates.

With ITMU's support, an electronic ATC Licence Database (e-ATCL) was developed and implemented to enhance the efficiency and effectiveness of the ATC licensing scheme. The e-ATCL would be extended for shared use with ATMD to provide one-stop service for the application, processing and issuing of ATC licences, ratings and certificates.

In accordance with requirements of ICAO and the Air Navigation (Hong Kong) Order 1995, ATMD was recognised as an approved training organisation for conducting training for air traffic controllers. ATC training conducted by ATMD shall be run pursuant to stipulations in ICAO Annex 1 and subject to regulatory oversight of ATMSO.

航空交通管理標準組舉辦安全文化簡報會，鞏固安全監督和安全管理概念。
ATMSO conducted a briefing on safety culture to enhance the concept of safety oversight and safety management.



安全推廣工作

為推廣安全訊息，航空交通管理標準組定期為空中航行服務機構和維修服務承辦商的職員，舉辦安全文化和安全管理系統簡報會，以鞏固安全監督和安全管理概念。

航空交通管理標準組與本處轄下的香港民航訓練中心攜手合作，為本地和區內的航空機構籌辦規管航空交通管理和安全監督的培訓課程。該課程會視乎可用的培訓時段和航空業界的反應，在適當的時機推出。

此外，本組也定期於本處內聯網發布規管資訊和安全管理資料，方便空中航行服務人員查閱。

培訓及發展事務辦公室

培訓及發展事務辦公室負責部門的整體培訓計劃。為了提高培訓計劃的效率，培訓及發展事務辦公室推出了重要措施，包括繪製培訓意念圖，構建推行具效率並以稱職為本的培訓和學習項目，藉此實踐部門的各項培訓措施。此外，我們也制定了發展意念圖，以闡述培育民航處專業職系人員的可行工作流程。

本處多個分部派出代表組成培訓及發展事務委員會，通過會議，一起評估各個倡議的項目，提升策劃和推行培訓工作的成效，栽培各專業職系人員，發展並深化他們在所屬民航專業範疇的能力和知識。

民航處培訓資料庫

民航處開發的培訓資料庫程式，有助記錄各個專業職系人員曾經接受的培訓和設定將來的培訓計劃。其他應用元件，包括「資歷」、「職位調動」、「編制人數和實際人數」，正在編寫之中。

Safety Promotion Activities

For safety promotion, ATMSO conducted periodic briefings to ANSP colleagues and the staff of the maintenance services provider on safety culture and SMS to reinforce safety oversight and safety management concepts.

In association with the department's Civil Aviation Training Centre, ATMSO had also prepared an ATM Regulatory and Safety Oversight Training Course for the local and regional aviation communities. The course would be presented depending on the availability of training slot and general response of the aviation communities.

In addition, regulatory information and safety management materials were published regularly on the intranet for convenient access by all air navigation services staff.

TRAINING AND DEVELOPMENT OFFICE (TDO)

TDO is responsible for planning departmental training as a whole. To enhance the effectiveness of such planning, TDO introduced strategic measures, including the development of a Training Mind Map for effective and competency based training and learning, setting the approach for implementing various CAD training initiatives. Being drawn up in parallel was a Development Mind Map that spelt out the possible work flow for the development of CAD professional grade officers.

Representatives from various CAD divisions are drawn to form the Training and Development Committee. Through meetings of the committee, members evaluate initiatives to enhance the effectiveness in the planning and provision of training to officers of different professional grades with a view to developing and enhancing the competence and knowledge in their respective disciplines in civil aviation.

CAD Training Database

The CAD Training Database Programme has been developed to facilitate the recording of staff training and formulation of future training plans for officers of different professional grades. Additional modules covering qualification, posting and establishment and strength are being developed.

航空教育徑於二零一三年一月二十八日正式開幕。
The Education Path was officially opened on 28 January 2013.



航空教育徑

自二零一三年三月起，培訓及發展事務辦公室接辦在民航處新總部設立的航空教育徑。教育徑的主要目標為提升公眾，尤其是新一代，對航空業發展的興趣。教育徑於二零一三年一月二十八日正式開幕，由民航處處長羅崇文先生聯同國際民航組織秘書長雷蒙·邦亞曼先生主禮。為進一步向青少年推廣航空教育，本處推出相關項目，培訓青年制服團體成員，擔任教育徑義務導賞員。

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，資訊科技管理組完成四項大型資訊科技計劃，以加強服務和支援：

- (一) 發展和推行職務考察數據庫，簡化申領職務考察款項的程序，以及減省處理的人手。
- (二) 發展和推行流動電子日誌，提供實時的空管消息和適時的預警功能，以盡早糾正可能發生的問題，嚴守航空交通安全標準。
- (三) 發展和推行流動實時空管資料工具，提供實時的空管資料，協助民航處人員於航空交通意外或事故發生後，迅速反應和決策。
- (四) 為配合政府的資訊科技政策並符合《無障礙網頁內容指引》2.0標準的要求，資訊科技管理組修改了民航處網站(www.cad.gov.hk)的設計，方便視障或聽障人士獲取民航資訊。

Aviation Education Path

Since March 2013, TDO has been tasked to manage the Aviation Education Path in the new CAD Headquarters. The main objective of the Education Path is to arouse the interest of the general public, in particular the next generation, in aviation developments. The Education Path was officially opened jointly by the Director-General of Civil Aviation, Mr Norman Lo, and the Secretary General of ICAO, Mr Raymond Benjamin, on 28 January 2013. To further promote youth aviation education, a programme has been launched to train up members of youth uniform groups as volunteer tour guides for the Education Path.

IT MANAGEMENT

ITMU continued to support day-to-day operations of various divisions through effective implementation of new IT initiatives and e-Government strategy. During the year, four major IT projects were completed for the betterment of IT service and support:

- (i) Development and implementation of the Duty Visit Database, which streamlines workflow in applications for duty visit claims and saves manpower to process the applications.
- (ii) Development and implementation of Mobile e-Log, which provides real-time update of ATC events and timely alert for early rectification of potential issues in meeting stringent air traffic safety standards.
- (iii) Development and implementation of Mobile Real-time ATC information, a handy tool to assist CAD officers in gaining real-time ATC situation information in mobile manner, allowing quicker response during an air traffic accident or incident.
- (iv) In order to comply with the pan-Government IT policy, the departmental website (www.cad.gov.hk) was enhanced to meet the Web Content Accessibility Guidelines 2.0 standard. ITMU designed the revamp of the website to facilitate persons with vision and hearing impairment to gain access to civil aviation related information.



A photograph of a Boeing 747-8 aircraft in a hangar. The aircraft is white with a blue and yellow livery. The text "AIR" is visible on the fuselage. A blue scissor lift is positioned near the open cargo door. In the background, there is a large hangar structure. A purple line graph with blue dots is overlaid on the top left of the image.

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經營許可證（航空經營許可證），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航組織所訂定的標準和建議措施。

The Flight Standards and Airworthiness Division 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).

飛行標準及適航 Flight Standards and Airworthiness

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，監督飛機維修機構、輕型飛機和直升機運作，監察外國航空公司在香港國際機場的運作，調查飛機意外和事故，以及分析安全數據。

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, supervision of aircraft maintenance organisations, supervision of light aircraft and helicopter operations, surveillance of foreign airline operators' operations at Hong Kong International Airport (HKIA), investigation of aircraft accidents and incidents, and safety data analysis.

飛行標準組

FLIGHT STANDARDS OFFICE

簽發和續發航空經營許可證

Issue and Renewal of AOC

截至二零一三年三月三十一日，獲民航處簽發航空經營許可證的本地公司有十家，計為：

As of 31 March 2013, 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	Heliservices (Hong Kong) Limited (HEL)
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)
香港商用飛機有限公司 (香港商用飛機)	Metrojet Limited (MTJ)
空中快線有限公司 (空中快線)	Sky Shuttle Helicopters Limited (HHK)
TAG Aviation Asia Limited (TBJ)	TAG Aviation Asia Limited (TBJ)

截至二零一三年三月三十一日，獲發航空經營許可證的本地公司共有十家。

As of 31 March 2013, there were ten Hong Kong AOC holders.



年內，本部通過全面巡查和審查，繼續監察本地航空經營許可證持證公司的安全表現和營運標準。飛行標準組巡查人員執行了129次飛行和機艙安全檢查，並對航空經營許可證持證公司作出共316次其他巡查，包括外站巡查，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位於海外和香港的49台飛行模擬器，並重新簽發使用許可。此外，本部負責監察政府飛行服務隊的直升機和定翼機運作。

新設的多機組飛行員執照（飛機）培訓課程

飛行標準組先後於二零一三年一月和二月，批准CAE牛津航空學院和港龍航空，開辦多機組飛行員執照（飛機）的中級階段和高級階段試驗培訓課程，對象為港龍航空的12位飛行學員。這項訓練課程根據國際民航組織最新的發牌制度和着重才能的訓練概念而制定。

飛行標準組批准CAE牛津航空學院和港龍航空，開辦多機組飛行員執照（飛機）的中級階段和高級階段試驗培訓課程。

The Flight Standards Office granted the approval to CAE Oxford Aviation Academy and HDA respectively to conduct the Intermediate Training Phase and Advanced Training Phase of the HDA/CAE Joint Multi-crew Pilot's Licence (Aeroplanes) Trial Course.

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 129 flight operations and cabin safety inspections, the Inspectorate staff of the Flight Standards Office had conducted 316 AOC inspections including station inspections, operational records inspections, training inspections and approval of authorised examiners. Forty-nine 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).

New Multi-crew Pilot's Licence (Aeroplanes) Course

In January and February 2013, the Flight Standards Office granted the approval to CAE Oxford Aviation Academy and HDA respectively to conduct the Intermediate Training Phase and Advanced Training Phase of the HDA/CAE Joint Multi-crew Pilot's Licence (Aeroplanes) Trial Course for HDA's 12 cadet pilots. The course was developed based on ICAO's new licensing regime and competency-based training concept.



交付航空器

香港航空業持續增長，本地航空公司紛紛擴充機隊。年內，香港民用航空器登記冊共新增39架航空器，其中33架來自香港航空經營許可證持證公司，詳情如下：

Delivery of Aircraft

As the Hong Kong aviation industry continued to grow, local airlines expanded their fleets and 39 aircraft were added to the Hong Kong Civil Aircraft Register in the period. The following are added under Hong Kong AOC holders:

國泰航空 CPA	六架空中巴士A330型、三架波音B747型貨機和五架波音B777型 Six Airbus 330, three Boeing 747 freighters and five Boeing 777
香港航空 CRK	四架空中巴士A330型、一架空中巴士A330型貨機和八架空中巴士A320型 Four Airbus 330, one Airbus 330 freighter and eight Airbus A320
港龍航空 HDA	兩架空中巴士A320型 Two Airbus 320
香港快運 HKE	一架空中巴士A320型 One Airbus 320
香港商用飛機 MTJ	一架680 Citation Sovereign型和一架灣流GV型 One 680 Citation Sovereign and one Gulfstream GV
TBJ	一架灣流G450型 One Gulfstream G450



年內，香港民用航空器登記冊共新增39架航空器。

Thirty-nine aircraft were added to the Hong Kong Civil Aircraft Register in the period.



適航事務組通過機庫檢查、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。

The Airworthiness Office monitors all Hong Kong approved aircraft and aircraft component maintenance organisations regularly through hangar surveys, company audits and product audits.

適航事務組

適航事務組監察所有在香港登記飛機的維修和適航標準。適航事務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，以持續監察航空經營許可證、維修和設計/生產機構的認可，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。截至二零一三年三月三十一日，共有29家公司獲發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 routine AOC line station audits, approved maintenance and design/production organisation audits, and aircraft surveys locally in Hong Kong as well as cities in the Mainland, Middle East, India, other parts of Asia, Europe and North America, for the purpose of continual monitoring of AOC, approval of maintenance and design/production organisation, and the issue and renewal of Certificates of Airworthiness for Hong Kong registered aircraft.

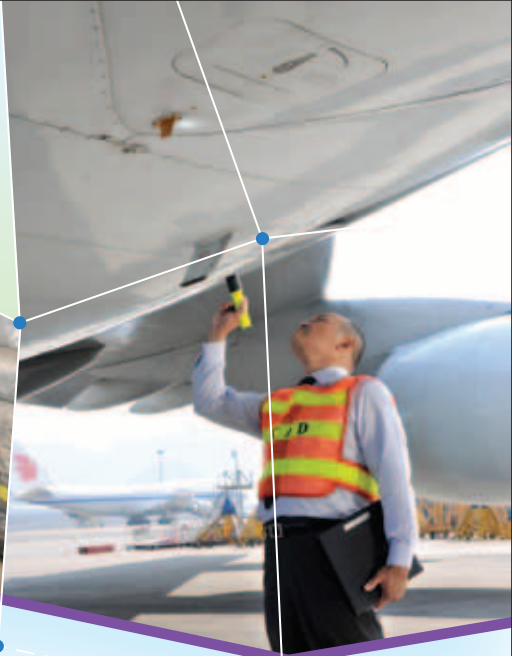
Aircraft Maintenance

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 2013, there were 29 approved maintenance organisations holding Hong Kong approvals. 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.

飛行標準及適航 Flight Standards and Airworthiness

適航事務組人員檢查飛機維修情況。

An Airworthiness Officer examining the maintenance status of an aircraft.



飛機維修訓練

截至二零一三年三月三十一日，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，可以舉辦維修香港登記飛機的基本訓練和飛機型號訓練課程。

Aircraft Maintenance Training

As of 31 March 2013, there were five HKAR-147 Aircraft Maintenance Training Organisations located in Hong Kong and the Mainland which were approved to provide basic and aircraft type training for the maintenance of Hong Kong registered aircraft.

飛機和相關產品/零件的設計與生產

截至二零一三年三月三十一日，共有11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，包括設計和生產。

Design and Production of Aircraft and Related Products/Parts

As of 31 March 2013, 11 HKAR-21 Design and Production Organisations were approved to provide certification of aircraft related products/parts including their design and production.

適航事務組統計數字

(二零一二年四月一日至二零一三年三月三十一日)

Airworthiness Office Statistics

(between 1 April 2012 and 31 March 2013)



航空人員執照事務組

空勤人員執照

二零一二至一三年度，航空人員執照事務組共處理3 553份申請，當中包括首次簽發和續期簽發空勤人員執照、簽發飛機和儀表等級、英語能力認證和轉換海外執照為香港執照。為配合業界對海外培訓和考試的需求，民航處核准了澳洲、英國和新西蘭的飛行培訓機構。年內，執照事務組共處理了6 948次空勤人員執照筆試。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4 068份體檢合格證明書。

PERSONNEL LICENSING OFFICE

Flight Crew Licensing

During 2012-13, the Personnel Licensing Office (PELO) processed 3 553 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 training and examinations, CAD approved Flying Training Organisations in Australia, the United Kingdom and New Zealand. During the year, PELO processed 6 948 CAD flight crew licensing written examinations. In addition, 4 068 medical certificates were issued to holders/applicants of Hong Kong flight crew licence or air traffic controller's licence.



適航主任查閱飛機的維修記錄。
An Airworthiness Officer perusing the
maintenance logbook of an aircraft.

飛機維修執照

截至二零一三年三月三十一日，執照事務組共處理1 448份有關首次簽發飛機維修執照、執照續期或加簽飛機型號等級的申請。年內，該組和香港飛機工程有限公司設於將軍澳的認可考試中心，舉辦了涉及共2 775份試卷的考試。

Aircraft Maintenance Licensing

As of 31 March 2013, PELO processed 1 448 applications for initial licence issue, renewal or inclusion of aircraft type rating endorsements in aircraft maintenance licences. During the report period, 2 775 examinations were conducted at PELO and the authorised examination centre at HAECO in Tseung Kwan O.



飛行安全組

飛行安全組繼續對香港航空經營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，飛行安全組年內接獲航空業界738份強制呈報事故報表。該組與各航空公司、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。

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定翼機機構和旋翼機機構（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（香港）有限公司和香港飛行總會）、香港滑翔傘協會，以及個別私人航空器擁有人。

FLIGHT SAFETY OFFICE

The Flight Safety Office 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, the Flight Safety Office received 738 Mandatory Occurrence Reporting (MOR) from the industry 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.

COORDINATION WITH LOCAL AIRSPACE USERS

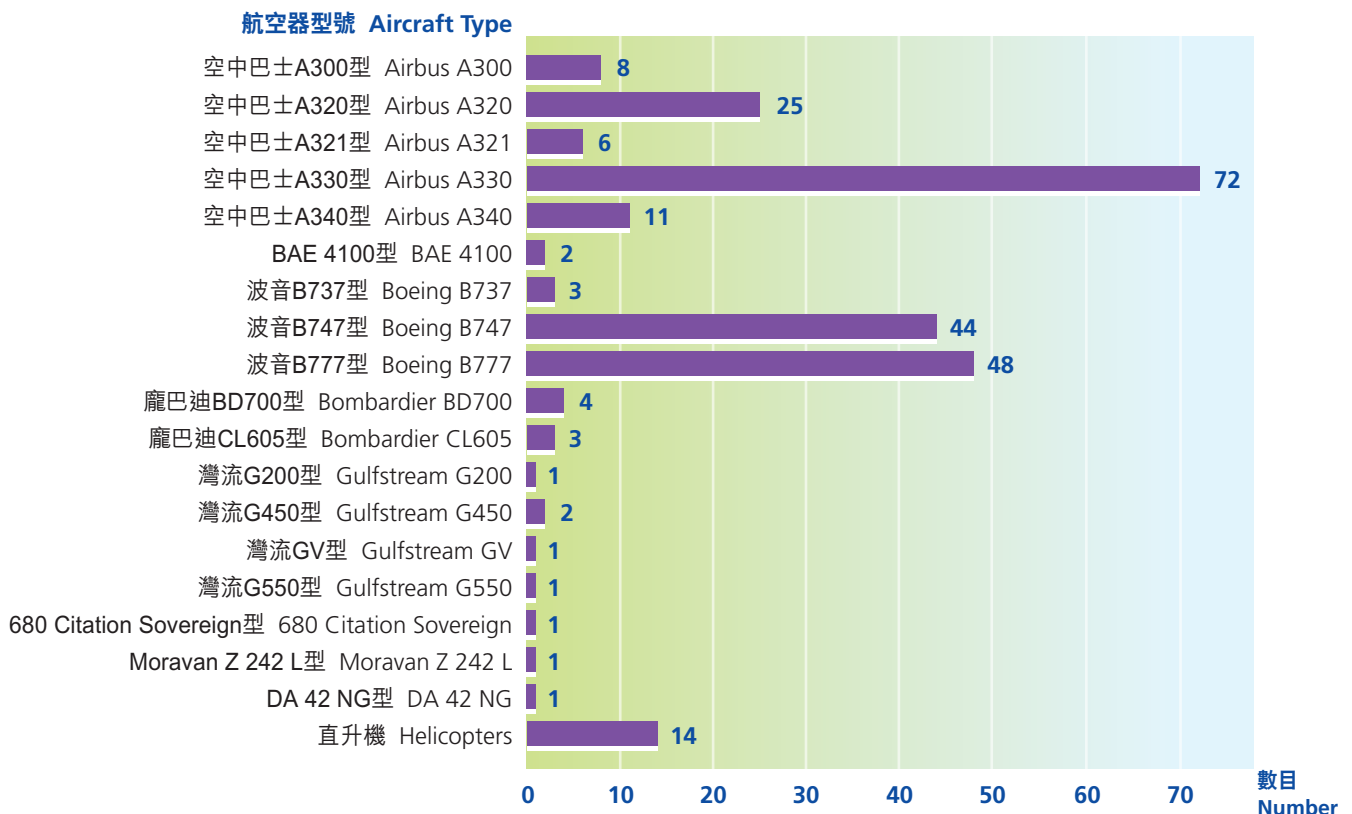
To promote flight safety, the Hong Kong Sector Flight Safety Committee comprising local airspace users continued to meet regularly to coordinate safety issues in the local airspace. These local airspace users include fixed-wing operators and rotary wing operators (GFS, Hong Kong Garrison of the People's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

飛機登記

年內，香港民用航空器登記冊共新增39架航空器，同期另有八架波音B747型、八架波音B737型、一架560XL型、一架灣流GIV型和一架灣流G200型航空器取消登記。截至二零一三年三月三十一日，香港民用航空器登記冊上共有289架民用航空器，當中248架由香港航空經營許可證持證公司和政府飛行服務隊所擁有，詳情如下：

AIRCRAFT REGISTER

During the year, 39 aircraft were put on the Hong Kong Civil Aircraft Register. In the same period, eight Boeing 747, eight Boeing 737, one 560XL, one Gulfstream IV and one Gulfstream G200 were removed from the Register. As of 31 March 2013, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 289, of which 248 were registered under Hong Kong AOC holders and the GFS as follows:



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，本部安排人員接受各項飛行運作和適航事宜的訓練，包括個別飛機型號、飛行模擬器評審、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，切磋經驗和良好作業實務。這些國際會議包括國際民航組織有關全球安全監察審查計劃持續監察模式、全球衛星導航系統、性能導航、廣播式自動相關監察、安全運作和持續適航合作發展和疲勞風險管理系統的會議/研討會，國際航空運輸協會的航空燃料論壇，新飛機機種的合格審定和維修審查委員會會議，以及與各地民航當局的聯絡會議等。

意外調查辦公室

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和嚴重事故。調查工作由受過訓練的意外調查主任，根據《國際民航公約》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和因由，以免事故再次發生。

CONTINUOUS TRAINING FOR INSPECTING STAFF

To maintain the technical knowledge and competence of officers in pace with the latest aviation development, the division arranged a wide spectrum of training for the officers on flight operations and airworthiness matters. These included training on specific aircraft types, simulator evaluation, auditing techniques as well as safety management. In addition, 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 Implementation of the Universal Safety Oversight Audit Programme Continuous Monitoring Approach, Global Navigation Satellite System, Performance-based Navigation, Automatic Dependent Surveillance-Broadcast, Cooperative Development of Operational Safety and Continuous Airworthiness and fatigue risk management systems; International Air Transport Association's Aviation Fuel Forum; Certification and Maintenance Review Board of some new aircraft types and coordination meetings with various aviation authorities.

ACCIDENT INVESTIGATION OFFICE

CAD is the aircraft accidents investigation authority for any aircraft accidents and serious incidents occurred in Hong Kong. These investigations are carried out by trained Inspectors of Accidents in line with the ICAO Annex 13 Standards and Recommended Practices with the purpose of determining the circumstances and causes of the occurrences to prevent recurrence in future.



年內，本處仍在調查的意外如下：

- 二零一零年四月十三日，一架屬國泰航空的空中巴士A330型飛機因兩台發動機出現控制問題，於香港國際機場緊急降落。一名乘客在疏散期間嚴重受傷。
- 二零一零年七月三日，一架屬亞太航空的阿古斯塔威斯特蘭AW139型號直升機，在上環空中快線直升機場起飛後不久，尾槳脫落，在維多利亞港水面迫降。機上機組人員和乘客全部獲救。
- 二零一零年十二月二十七日，一架屬政府飛行服務隊的歐洲直升機公司AS332 L2型超級美洲豹直升機，在執行滅火任務期間一台發動機失效，於城門水塘水面迫降。機上所有機組人員安全撤離。
- 二零一一年一月三日，一架屬直升機服務（香港）有限公司的Aerospatiale SA315B LAMA型直升機，在粉嶺為中華電力有限公司執行吊運工作。鄰近架空高壓電纜的位置突然起火，導致地面兩名工人受傷。直升機結構並無損毀。

所有調查報告，包括初步報告和意外調查公報，均已上載民航處網頁 (www.cad.gov.hk/chinese/reports.html)。

意外調查辦公室為以上四宗意外的調查工作提供行政支援。

During the year, the following accidents were under investigation:

- On 13 April 2010, an Airbus 330 aircraft operated by CPA conducted an emergency landing at the HKIA due to control problem on both engines. One passenger suffered serious injury during the evacuation.
- On 3 July 2010, an AgustaWestland AW139 helicopter of East Asia Airlines from Macao experienced a loss of tail rotors shortly after takeoff from the Sky Shuttle Heliport in Sheung Wan and ditched in the Victoria Harbour. All crew and passengers onboard were rescued.
- On 27 December 2010, a Eurocopter AS332 L2 Super Puma helicopter of GFS ditched in Shing Mun Reservoir due to failure of an engine during a fire-fighting operation. All crew members left the helicopter safely.
- On 3 January 2011, an Aerospatiale SA315B LAMA helicopter of HEL conducted an underslung load operation for the China Light and Power Limited in Fanling. A flash of fire occurred adjacent to the overhead high voltage electricity power cables, injuring two workers on the ground. There was no structural damage to the helicopter.

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

The Accident Investigation Office provided administrative support to the investigations of the above four accidents.





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。根據由本部執行的發牌機制，香港機場管理局（機管局）獲授權營運香港國際機場。本部也負責監察直升機場的運作安全和保安水平，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. Airport Authority Hong Kong (AAHK) is authorised to operate Hong Kong International Airport (HKIA) through a licensing mechanism administered by the division. The division also monitors the safety and security of heliport operations 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

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。

為確保香港國際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122次巡查，範圍包括飛行區內的臨時和定期日常維修工程、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，以及機場擴建項目。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，確保相關各方採取適當改善措施，以防同類事故重演。

年內，機管局推行了數項大型維修計劃，其中，主要滑行道刨鋪工程於二零一二年九月展開，整項工程預計在二零一三年十一月完成。為了盡量減少施工對機場運作的影響，本部與機管局保持密切聯絡，監察工程進度，並且不時巡查上述刨鋪工程。

客運停機位加建了登機橋，方便連接A380型飛機的上層客艙。

An additional airbridge was installed at a passenger parking stand for serving the upper deck of A380 aircraft.

AIRPORT SAFETY

Aerodrome Licensing

APSD continued to exercise safety oversight on the performance of AAHK to ensure compliance with 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 122 inspections during the year covering both ad-hoc and scheduled airside routine 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 airfield franchisee audits carried out by AAHK and exercised oversight on the investigation of aircraft ground incidents conducted by AAHK to ensure that appropriate remedial measures had been taken by relevant parties to prevent recurrence.

Several large-scale airfield maintenance projects were undertaken by AAHK during the year. One such project involved a programme of pavement resurfacing of major taxiways. Commenced in September 2012, the whole programme was scheduled for completion in November 2013. To ensure that disruptions to normal airport operations were kept to the minimum while these works were on-going, the division liaised closely with AAHK to monitor the progress and conducted inspections from time to time on these resurfacing works.



機場安全標準部人員巡查北跑道的飛行區地面燈號系統。
APSD officers inspecting the airfield ground lighting system on the North Runway.



機管局於年內也展開多項改善工程，以應付新需求和/或進一步提升機場運作的安全和效率。其中一項工程旨在提升香港國際機場處理A380型飛機的能力。機管局在一個廊前客運停機位加建一條登機橋，以便連接A380型飛機的上層客艙。新登機橋已於二零一三年一月啟用。在該停機位重新投入服務前，本部聯同機管局多次實地巡查，以審核各項設施的性能水平。此外，機管局也計劃為另一個現時設有兩條登機橋的廊前客運停機位，改建其中一條登機橋，以便直接與A380型飛機上層客艙接合，從而增設一個A380型飛機的廊前客運停機位。這項改建工程預計於二零一三年年中展開。本部會繼續監察上述改善工程，確保新設施完全符合機場發牌規定。

近年，在香港國際機場升降的B747-8型飛機數目顯著增加。本部與機管局全面審視供這型號飛機使用的整體配套設施，為日後容納更多B747-8型飛機升降作好準備。

為應付航班增長，機管局於中場範圍和西面停機坪開展大型發展計劃。計劃包括興建一座客運廊、20個廊前停機位、16個遠方停機位和12個臨時停機位。整項計劃於二零一一年展開，預計於二零一五年年底竣工。年內已完成或啟用的部分包括：(一) T滑行徑和周邊六個臨時停機位；(二) N滑行道和臨時滑行旁道；(三) 把部分舊有N滑行道改稱為A3滑行道和M滑行徑；以及(四) 連接B滑行道與多條新設的滑行徑。本部在這些新設施啟用前實地巡查，確保符合機場發牌規定，且已制定相關運作程序。此外，多個相關項目已陸續展開，計有N滑行道和M滑行道、連接貨運停機坪和西面停機坪的西面飛行區隧道入口開挖工程、機場中場新客運廊的建築工程，以及旅客捷運系統（即無人駕駛列車）的延展工程等。本部會繼續密切監察整項計劃的進度，確保飛行區安全運作，不受影響。

A number of enhancement projects were also launched by AAHK during the year to meet new demand and/or to further raise the safety and efficiency of airport operations. One such project was to further enhance the efficiency in handling A380 aircraft at HKIA. Modification works were carried out at a frontal passenger aircraft parking stand to install an additional airbridge for serving the upper deck of A380 aircraft. The new facility was commissioned in January 2013 and the division conducted several joint inspections with AAHK to check the performance of the facilities before putting the parking stand into operation. Besides, AAHK planned to provide one more A380 frontal passenger stand by reconfiguring one of the two existing airbridges at the stand so that it could dock directly to the upper deck of A380. This project was planned to commence in mid-2013. The division will continue to monitor the upgrading works to ensure that these new facilities will fully comply with the licensing requirements.

In view of the increasing number of B747-8 aircraft operating at HKIA in recent years, the division worked closely with AAHK on reviewing the overall operational feasibility of such aircraft at HKIA in preparation for more frequent operations.

To cater for traffic growth, AAHK had embarked on a large scale development project at the midfield and the western apron. The project comprised the construction of a concourse, 20 frontal stands, 16 remote stands and 12 temporary stands. Commenced in 2011, the entire project was targeted to complete by the end of 2015. Parts of the project completed during the year included (i) the opening of Taxiway T and six temporary parking stands; (ii) the construction of a temporary Taxiway N by-pass; (iii) the renaming of part of former Taxiway N to Taxiway A3 and Taxiway M; and (iv) tie-in works between Taxiway B and new Taxiways. APSD had inspected these new facilities to ensure that they were built in compliance with the aerodrome licensing requirements and all procedures were in place before they were put into use. On-going projects included the re-alignment of Taxiway N, construction of entrances to Western Airfield Tunnel for linking the Cargo Apron and Western Apron, construction of Midfield Passenger Concourse and associated extension of Automated People Mover, etc. The division will continue to closely monitor the progress of the whole project to ensure that safety of airfield operations will not be compromised.

為確保機場運作安全順暢，本部聯同航空交通管理部和航空交通工程及標準部，參與機管局主持的委員會或工作小組，就機場各項基建發展計劃和《香港國際機場2030規劃大綱》提供意見。本部也就機管局推行的新操作程序和使用的新設備提供意見，以提升機場的安全水平和運作效率。

為減低飛機受鳥擊的風險，本部根據國際民航組織的指引，持續監察香港國際機場和附近地區所實施的雀鳥控制措施。本部又積極參與討論港珠澳大橋香港口岸和香港接線的景觀綠化設計，並就設計方案提供意見。

為測試緊急應變程序，以及加強機場各個營運者與相關應變單位處理飛機意外的協調能力，機管局於年內在香港國際機場舉行多次緊急應變演習。本部一直積極參與籌劃，並定期視察這些演習，其中一次是於二零一二年十一月二十八日舉行的年度大型飛機意外救援演習。是次演習模擬客機於香港國際機場起飛後不久，因發動機失去動力而撞向北衛星廊，引致航機和建築物起火，令多名乘客、機組人員和地面工作人員受傷。不同應變單位，包括機管局、相關政府部門和航空公司均參與演習，以測試各單位的緊急程序和應變能力，例如疏散航機上的乘客和機組人員，以及在北衛星廊疏散候機乘客和地面工作人員等。從籌備至完成演習，本部監察各階段的進展，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應變能力。

如飛機因故障而未能在跑道上或主要滑行道上行自如，將會嚴重阻礙機場運作，影響航班升降。為減低影響，本部促請機管局提交相關的搶修飛機計劃。就此，機管局聯同維修和地勤公司等相關機構，於二零一三年一月成立「飛機搶修專責小組」，改善拖走受故障影響的飛機的程序，以及加強與相關機構的協調和合作。本部會持續監察專責小組的工作進度。

To ensure safe and smooth airport operations, APSD in collaboration with the Air Traffic Management Division and the Air Traffic Engineering and Standards Division participated in various committees or working groups convened by AAHK to provide inputs and comments on airport infrastructural development and HKIA Master Plan 2030 study. The division also provided inputs to new equipment and new operating procedures introduced by AAHK in order to enhance airport safety and operations.

To minimise the risk of bird strike, the division continued to monitor bird control measures at HKIA as well as in its vicinity in accordance with International Civil Aviation Organization (ICAO) guidance. In addition, the division was actively involved in discussions with parties concerned on landscaping issues related to the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) and the Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road (HKLR) and providing inputs to the landscaping design proposals.

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 full-scale annual aircraft crash exercise conducted on 28 November 2012. The exercise simulated a departure flight which, shortly after taking off from HKIA, encountered total engine failure and crashed into the North Satellite Concourse (NSC). This led to aircraft accident and building fire, and resulted in passenger, crew and ground injury. 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 evacuating passengers, flight crew and ground staff from the aircraft and the NSC building respectively. The division oversaw the preparation and operation of the exercise starting from planning until completion and provided comments and recommendations for AAHK and relevant responding parties to further enhance their emergency procedures and responses.

To reduce the adverse impact on airport operations caused by disabled aircraft on the runway or major taxiway, AAHK was urged to review the contingency plan for aircraft recovery operations. The Aircraft Recovery Task Force was set up by AAHK together with various concerned parties in the airport in January 2013 to enhance the preparedness for recovery actions and the coordination between concerned parties. APSD will continue to monitor the work progress of the Task Force.

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

本部審核多項建築和發展計劃及可行性研究，並提供意見，確保各項目符合機場高度限制和其他航空安全的要求。年內，經本部審核的主要項目和研究，在香港國際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、廣深港高速鐵路、位於青衣島西南面的十號貨櫃碼頭、屯門赤鱸角接線，以及東涌餘下發展計劃。在香港國際機場範圍內的主要項目則包括香港國際機場中場範圍發展計劃和西面停機坪發展計劃。機管局擬備《香港國際機場2030規劃大綱》時，本部也就擴建機場後的機場高度限制和現正規劃的相關海上限制區，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

APSD assessed and provided advice on various building and development projects and feasibility studies to ensure their compliance with Airport Height Restrictions (AHR) and other applicable aviation safety requirements. The major projects and studies outside HKIA assessed during the year included HKBCF and HKLR under the Hong Kong-Zhuhai-Macao Bridge Project, the Guangzhou-Shenzhen-Hong Kong Express Rail Link, Container Terminal 10 at Southwest Tsing Yi, the Tuen Mun-Chek Lap Kok Link and the Remaining Development in Tung Chung. The major projects within HKIA assessed included HKIA's Midfield development project and the Western Apron development project. Besides, when HKIA Master Plan 2030 was prepared by AAHK, the division provided advice on AHR and the associated Marine Exclusion Zones (MEZs) being planned for an expanded airport system in order to ensure aviation safety of the new flight paths.



機場安全標準部人員巡視香港會議展覽中心旁的區內直升機場。
APSD officers inspecting the domestic heliport near the Hong Kong Convention and Exhibition Centre.

機場安全標準 Airport Standards

港珠澳大橋香港口岸的工地靠近香港國際機場雙跑道的航道。項目顧問和承建商必須使用船舶高度監測系統，讓本部考慮是否批准臨時豁免工作船受機場高度限制的申請。照片於本部人員檢查船舶高度監測系統時拍攝。
As the worksite of the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities is close to the flight paths of the two runways of HKIA, project consultant and contractor were required to commission a vessel height monitoring system for consideration of applications for Airport Height Restriction exemption. This photo was taken during the site inspection of the vessel height monitoring system.



港珠澳大橋香港口岸的填海工程於香港國際機場東北對開水域進行，承建商會調派大量工作船建造人工島和相關的基礎設施。由於這項重要工程的填海位置靠近香港國際機場，並在雙跑道的航道之下，為了確保飛機的安全和避免機場運作受到干擾，本部主動要求港珠澳大橋香港口岸的項目顧問和承建商使用船舶高度監測系統。該系統全日24小時運作，監測在香港國際機場附近填海位置工作的機械/船隻的最高高度，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批准臨時豁免高身船隻受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。

港珠澳大橋香港接線的兩項工程已於年內動工，工程大部分於機場島以南和以東對開水域進行，部分更位於香港國際機場南跑道的航道之下。為了確保項目顧問和承建商在設計工程細節和考慮建造方法（包括選擇機器設備）時，會符合機場高度限制的規定，本部多次參與相關會議、工作坊、示範和演練，並不時提供意見。本部也要求其中一項工程使用類似的船舶高度監測系統。

年內，本部共批准139宗臨時豁免機場高度限制的申請，當中105宗涉及港珠澳大橋香港口岸的填海工程，以方便建築工程進行，以及在機場島附近的海事運作。

With the commencement of the reclamation works at the waters off the northeast of HKIA for the HKBCF, a large number of working vessels would be deployed by contractors to construct an artificial island on which infrastructures would be built. The HKBCF reclamation site was 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 this strategic project, APSD took a proactive approach to require the project consultant and contractor to commission a vessel height monitoring system. It was designed to operate 24/7 for monitoring the highest altitude of machineries/vessels working at the reclamation site near HKIA and enhancing their compliance with the AHR requirements. This arrangement was particularly important for the division's consideration of applications for AHR exemption involving high aircraft vessels. The performance of the contractor in complying with the AHR was also closely monitored by staff of the division who would require remedial actions from the contractor as and when necessary.

The two HKLR projects associated with the Hong Kong-Zhuhai-Macao Bridge also commenced their works during the year. The majority of their works area were around the water south and east of the Airport Island and some were also under the flight paths of the South Runway of HKIA. The division participated in various meetings, workshops, demonstrations and drills, and offered advice from time to time to ensure that the project consultant and contractor, when designing the project details and determining the construction methods including the choice of construction plants, would fully comply with the AHR requirement. A similar vessel height monitoring system was also commissioned in one of these projects.

This year, the division issued 139 temporary AHR exemptions to facilitate construction works in the territory and vessel operations in the vicinity of the Airport Island of which 105 temporary AHR exemptions were issued to facilitate the works of the Hong Kong-Zhuhai-Macao Bridge – HKBCF Reclamation Project.

機場安全標準部人員審查船舶高度監測系統的即時網上資料。
APSD officers inspecting real time online information displayed on the website of the vessel height monitoring system.



本部得到海事處通力協助，繼續防止船隻駛進機場島附近的海上限制區，以免干擾航機和無線電導航儀器運作。年內，海事處針對非法闖入限制區，共提出11次檢控。

禁止燈光危害飛機航行

為確保航空安全不受危害，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、國慶和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、氣球、風箏、模型飛機、無人駕駛飛機系統等活動，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。

運載危險物品

機場安全標準部轄下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。危險品事務組訂立了危險品許可證制度，航空公司必須符合相關的安全規定，才會獲發許可證，運載危險品進出或飛越香港。年內，危險品事務組共處理8宗空運危險品許可證申請及45宗許可證續期申請。截至二零一三年三月底，共有83家航空公司獲准運載危險品進出或飛越香港。此外，危險品事務組審批了32家機構，批准他們為航空公司、空運貨站、貨運代理人 and 付運人，開辦危險品訓練課程。該組又定期和突擊巡查航空公司、培訓機構、空運貨站、貨運代理人 and 付運人，監察是否符合托運危險品的安全規定。

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, 11 prosecutions against illegal entry into the MEZs were instituted by the Marine Department.

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 laser, search lights and fireworks displays at different shows such as "A Symphony of Lights", the National Day and Chinese New Year Fireworks 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, balloon flights, kite flying, model aircraft flying and unmanned aircraft systems to ensure that these activities were conducted in compliance with applicable aviation safety regulations and would not affect civil aircraft operations.

CARRIAGE OF DANGEROUS GOODS

The Dangerous Goods Office of APSD regulated the safe transport of dangerous goods by air according to ICAO and local legal requirements. Through a dangerous goods permission system established by the Dangerous Goods Office, airlines must satisfy all pertinent safety requirements before they are permitted to carry dangerous goods to, from or over Hong Kong. This year, eight new and 45 renewal applications for dangerous goods permissions were processed. At the end of March 2013, 83 airlines were permitted to carry dangerous goods onboard their aircraft flying to, from or over Hong Kong. In addition, the Office approved 32 organisations for conducting dangerous goods training programmes for operators, air cargo terminals, air freight forwarders and air cargo shippers. Regular and ad-hoc inspections were conducted by the office to monitor the compliance of the airlines, training institutions, air cargo terminals, freight forwarders and shippers.

機場安全標準 Airport Standards

機場安全標準部人員向航空貨運業界講解空運鋰電池的新規定。
An APSD officer presenting to the air cargo industry on the new requirements on air transport of lithium batteries.

新印製的危險品須知單張。
Newly published dangerous goods information sheet.



發布安全規定

危險品事務組繼續通過教育和宣傳活動發布空運危險品的安全規定，以提高公眾對空運危險品的安全意識。年內，危險品事務組藉着簡介會，向空運業人員講解空運鋰電池的新要求，是次活動約有150人參加。此外，危險品事務組印製並派發了全新的空運危險品須知單張，以加強貨運代理人對托運危險品的認識。

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，年內展開了修例工作。

與外地航空當局聯繫

危險品事務組與其他地方的民航當局定期保持聯絡。年內，該組先後與卡塔爾和美國的民航當局會面，交流經驗和資訊。

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。為免類似事件重演，危險品事務組調查所有事故，並向在香港營運的航空公司和外國航空當局發布有用的調查結果。

Promulgation of Safety Requirements

The Dangerous Goods Office continued to promulgate safety requirements and promote the safe transport of dangerous goods by air through education and publicity. During the year, the Dangerous Goods Office gave a presentation on the safe transport of lithium batteries by air to the air cargo industry and around 150 participants attended. Besides, a new information sheet on the transport of dangerous goods by air was published and distributed to enhance the awareness of freight forwarders on consigning dangerous goods.

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, a legislative amendment exercise commenced in the year.

Liaison with Other Civil Aviation Authorities

The Dangerous Goods Office maintained regular contacts with other civil aviation authorities. During the year, the Dangerous Goods Office hosted meetings with officials from the civil aviation authorities of Qatar and the United States to exchange experience and information on regulatory matters.

Dangerous Goods Incidents

The incidents which occurred in the year were mainly related to undeclared dangerous goods. The Dangerous Goods Office launched investigations into all these incidents with an aim to prevent recurrence. Useful findings were disseminated to aircraft operators in Hong Kong and foreign aviation authorities.

航空保安

對香港國際機場營運者的保安監察

機場安全標準部通過審計和檢查，確保機管局和香港國際機場的各個營運者，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》處理兩宗禁區指定個案，其中一宗是重新配置香港商用航空中心的租戶禁區，另外一宗是把新落成的國泰航空貨運站內某些範圍劃為租戶禁區。本部人員在禁區指定生效前實地視察，確保進出禁區有足夠的管制措施保障。

AVIATION SECURITY

Security Oversight of Operators at the 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 two designations of restricted areas under the Aviation Security Ordinance. One of the designations was made for the reconfigurations at tenant restricted areas of the Hong Kong Business Aviation Centre. The other designation was to demarcate certain areas within the new Cathay Pacific Cargo Terminal as tenant restricted areas. Officers of the division conducted inspections prior to the commencement of the designations to ensure that sufficient protection was provided for controlling access to the restricted areas.



民航處主辦簡介會，講解香港管制代理人制度的新措施，以便配合國際民航組織由二零一三年七月十五日起生效的空運貨物新保安標準。

CAD organised the Information Session on Enhancement to Hong Kong's Regulated Agent Regime in Response to ICAO New Air Cargo Security Standards Applicable from 15 July 2013.

新修訂香港空運貨物保安管制代理人制度 (Regulated Agent Regime)

主辦機構：香港付貨人委員會 香港工業總會 珠三角工業協會 香港紡織業聯會 香港
協辦機構：深圳市僑商國際聯合會 深圳市加工貿易企業協會



空運貨物保安

自二零零零年三月起，香港實行管制代理人制度，以遵行國際民航組織的空運貨物保安標準。根據這項制度，每一名向民航處登記為管制代理人的貨運代理，必須為空運貨物實施保安管制措施，並檢查指定來源的貨物。本部持續檢查已登記的管制代理人，確保他們遵守管制代理人制度的規定。截至二零一三年三月三十一日，本處的登記冊上共有1 361名管制代理人。

為不斷改善管制代理人制度，本部與空運業界的代表組成工作小組，研究措施以加強供應鏈的保安。二零一二年年底，國際民航組織頒布新修訂的空運貨物保安標準。為遵行將於二零一三年七月十五日起生效的新保安標準，香港現行的空運貨物保安管制代理人制度將予以強化。修訂項目之一，是把管制代理人制度擴展至以全貨運航機運載的貨物。二零一三年年初，民航處在諮詢空運業界代表團體（包括香港付貨人委員會、香港貨運物流業協會有限公司和航空公司貨運聯絡小組等）後，制定了空運貨物新保安標準規定的文件，以符合國際民航組織新修訂的空運貨物保安標準。

難受管束人士的行為

為針對民航機上難受管束或擾亂秩序人士的行為，香港制定了《航空保安（修訂）條例》，對這類罪行施加制裁。年內，根據該條例檢控成功的個案共有五宗。

Air Cargo Security

Hong Kong has implemented a Regulated Agent Regime (RAR) since March 2000 to comply with ICAO cargo security standards. Under the 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. APSD continued to monitor the compliance of the RAs with the requirements of the RAR through inspections. As at 31 March 2013, there were 1 361 RAs registered with CAD.

With a view to continually enhancing the RAR, the division set up a working group which comprises representatives of the air cargo industry to identify measures for securing the supply chain. To ensure adherence to the new air cargo security standards promulgated by ICAO in late 2012 which will come into effect from 15 July 2013, the air cargo security RAR currently implemented in Hong Kong will be enhanced. One of the enhancements is the extension of the application of the RAR to cargo carried onboard all-cargo aircraft. In early 2013, after consulting the air cargo industry representative bodies (including the Hong Kong Shippers' Council, the Hong Kong Association of Freight Forwarding and Logistics Limited and the Carrier Liaison Group, etc.), CAD developed the new air cargo security requirement documents to ensure adherence to the new ICAO air cargo security standards.

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 five cases of successful prosecution under the Ordinance.

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香港國際機場實施的情況。年內，本部向香港登記航空公司的機組人員發出1 677張新空勤人員證書和續發四張空勤人員證書。

國際事務

國際民航組織亞太地區互助航空保安計劃

香港自二零零四年起，參加國際民航組織亞洲太平洋地區互助航空保安計劃。設立計劃的目的，是協助參與計劃的成員遵行《國際民航公約》附件9和附件17所訂的航空保安標準和建議措施，並提高航空保安能力。二零一二年七月，機場安全標準部派員出席在泰國曼谷舉行的保安計劃主導委員會第九次會議。

亞太區經濟合作組織（亞太經合組織）

機場安全標準部不時代表香港，參與亞太經合組織運輸工作小組轄下航空保安小組的工作。成立航空保安小組的目的，是提高各成員國和地區的航空保安水平。本部繼續協助航空保安小組制定航空保安指引。

國際民航組織全球航空保安審計計劃

為支援國際民航組織推行全球航空保安審計計劃，本部一名人員在二零一二年八月，以國際民航組織審計員身分，在泰國完成一項航空保安審計任務。

Facilitation

Through the participation in the Airport Facilitation Committee, APSD monitored the implementation of the Standards and Recommended Practices of ICAO Annex 9 at HKIA. During the year, 1 677 new Crew Member Certificates (CMCs) and 4 renewed CMCs were issued to the crew members of Hong Kong registered aircraft operators.

INTERNATIONAL ACTIVITIES

ICAO Cooperative Aviation Security Programme - Asia Pacific (CASP-AP)

Since 2004, Hong Kong has joined the CASP-AP established by ICAO. It aims at assisting states and administrations in the Asia Pacific region to comply with the standards and recommended practices for aviation security in ICAO Annexes 9 and 17, and to enhance their competence in aviation security. APSD attended the Ninth Steering Committee Meeting of the Programme held in Bangkok, Thailand in July 2012.

Asia-Pacific Economic Cooperation (APEC)

From time to time APSD has represented Hong Kong to participate in the Aviation Security Sub-Group (ASG) of the APEC Transportation Working Group, which was established with the objective of enhancing the security standards of member economies. The division continued to provide support to the ASG in the development of guidelines in aviation security.

ICAO Universal Security Audit Programme

To support the implementation of the ICAO Universal Security Audit Programme, an APSD officer completed, in the capacity as an ICAO auditor, an ICAO aviation security audit mission for Thailand in August 2012.

航班事務

Air Services



航班事務部負責監察航空公司的航班服務，就本地航空公司的空運牌照申請及民用航空運輸談判向有關當局提供資料，處理有關民航立法事宜，提供航空交通統計及預測數字以計劃增添航空交通管制設施，以及制定和執行飛機噪音消減措施。

The Air Services Division is responsible for monitoring air services provided by airlines, providing information to relevant authorities regarding air transport licence applications by local airlines and for air services negotiations, handling civil aviation legislative matters, producing air traffic statistics and forecasts to facilitate the planning of additional air traffic control facilities, and developing and implementing noise mitigating measures.





航班事務 Air Services

航班事務組負責監察航空公司有否遵守規管定期航班服務的民用航空運輸安排，以及監管不定期航班服務。該組並為運輸及房屋局提供資料，在民用航空運輸談判時參考，另外又為空運牌照局提供資料，以助牌照局考慮本地航空公司提出的空運牌照申請。此外，該組負責檢討民航法例和提出修訂建議，以及與國際組織，特別是國際民用航空組織（國際民航組織）和亞太區經濟合作組織（亞太經合組織）商討航空事務和活動。

技術行政組則負責監察飛機噪音消減措施的實施和各區的噪音情況。該組也負責提供航空交通統計數字，統籌部門的工程項目，評估直升機服務需求和促進直升機場的發展。

The Air Services Section monitors compliance by airlines with the air services arrangements which govern scheduled air services and regulates non-scheduled air services. It provides information to the Transport and Housing Bureau for air services negotiations and to the Air Transport Licensing Authority for consideration of licence applications by local airlines. It also reviews and proposes changes to civil aviation legislation and liaises with other international organisations, particularly the International Civil Aviation Organization (ICAO) and the Asia-Pacific Economic Cooperation (APEC) on aviation related matters and activities.

The Technical Administration Section is responsible for monitoring the implementation of aircraft noise mitigating measures and the noise situation at various districts. It also provides air traffic statistics, coordinates building projects for the department, assesses the demand for helicopter services and facilitates the development of heliports.



年內，客運票價雖有輕微調整，但大致保持穩定。
Passenger fares remained steady over the period notwithstanding some minor adjustments.



年內，民航處合共簽發162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。
During the year, CAD issued 162 operating permits to airlines for operation of scheduled services to and from Hong Kong.



二零一二至一三年度的客運量比去年上升5%至5 643萬人次。
Traffic throughput in the year 2012-13 reached 56.43 million passengers with a growth rate of 5%.

截至二零一三年三月底，共有106家航空公司提供定期往來香港的航班服務，涉及的城市/機場超過180個。
By the end of March 2013, the number of scheduled airlines serving Hong Kong was 106, involving over 180 cities/airports.



航空服務

航空交通量增長

二零一二至一三年度的客運量比去年上升5%至5 643萬人次，飛機升降量同樣增加5%至355 008架次。貨運量則按年增加3%至404萬公噸。

截至二零一三年三月底，提供定期往來香港航班服務的航空公司，總數為106家，服務的城市/機場總數增加至超過180個。截至二零一三年三月的航點城市/機場的變動情況詳見附錄甲。

本地航空公司的服務

年內，國泰航空公司（國泰）開辦香港往返海得拉巴的定期貨運航班，但停辦香港往返斯德哥爾摩、薩拉戈薩和布魯塞爾的定期貨運航班。截至二零一三年三月底，國泰航空營辦往返香港的定期航班服務遍及全球65個目的地。

港龍航空公司（港龍航空）開辦往返清邁、峴港、濟州、加爾各答、克拉克、溫州、仰光和鄭州的定期客運航班。截至二零一三年三月底，港龍航空定期航班服務遍及41個目的地，包括內地21個城市。

香港華民航空有限公司（華民航空）繼續經營亞洲區貨運航班服務。截至二零一三年三月底，華民航空營辦往返亞洲12個目的地的定期航班服務。

香港航空有限公司（香港航空）繼續擴展區內服務網絡，開辦定期客運航班往返福州、貴陽、哈爾濱、呼倫貝爾、亞庇、昆明、沖繩和太原，但停辦往返桂林、高雄、倫敦、新加坡和東京的航線。定期貨運服務方面，香港航空開辦往返南寧和鄭州的航線，但先後停辦往返真奈、寧波和石家莊的航線。截至二零一三年三月底，香港航空營辦往返32個目的地的定期航班服務。

AIR SERVICES

Air Traffic Growth

Traffic throughput in the year 2012-13 reached 56.43 million passengers with a growth rate of 5%. Aircraft movements also reached 355 008 movements, with a growth rate of 5%. Cargo throughput increased to 4.04 million tonnes, representing a year-on-year growth of 3%.

By the end of March 2013, the number of scheduled airlines serving Hong Kong was 106. The total number of cities/airports served by scheduled services to and from Hong Kong increased to more than 180. Details of the changes in these cities/airports in March 2013 are given in Appendix A.

Services by Local Carriers

During the year, Cathay Pacific Airways (CPA) launched scheduled all-cargo services to Hyderabad but suspended such services to Stockholm, Zaragoza and Brussels. By the end of March 2013, CPA operated scheduled services to 65 destinations worldwide.

The Hong Kong Dragon Airlines Limited (HDA) launched scheduled passenger services to Chiang Mai, Da Nang, Jeju, Kolkata, Clark, Wenzhou, Yangon and Zhengzhou. By the end of March 2013, HDA operated scheduled services to 41 destinations, including 21 cities in the Mainland.

AHK Air Hong Kong Limited (AHK) continued to operate scheduled all-cargo services in Asia. By the end of March 2013, AHK operated scheduled services to 12 destinations in Asia.

Hong Kong Airlines Limited (CRK) continued to expand its regional services. CRK launched scheduled passenger services to Fuzhou, Guiyang, Harbin, Hulunbeier, Kota Kinabalu, Kunming, Okinawa and Taiyuan, but suspended services to Guilin, Kaohsiung, London, Singapore and Tokyo. For scheduled all-cargo services, CRK commenced services to Nanning and Zhengzhou but suspended services to Chennai, Ningbo and Shijiazhuang. By the end of March 2013, CRK operated scheduled services to 32 destinations.

香港快運航空有限公司（香港快運）開辦往返桂林的航線，但停辦往返長沙、海口、杭州、昆明、沖繩、大阪、三亞和西安的航線。截至二零一三年三月底，香港快運的定期航班服務涵蓋六個目的地。

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，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

定期客運服務方面，Mongolian Airlines Group於二零一二年六月開辦往來烏蘭巴托與香港的服務；AirAsia Inc.和樂桃航空於二零一二年七月，分別開辦往來克拉克與香港和往來大阪與香港的服務；Air Astana於二零一二年八月開辦往來阿拉木圖與香港的服務；Globus於二零一二年十月開辦往來新西伯利亞與香港的服務；通里薩航空於二零一二年十二月開辦往來暹粒與香港的服務；塞舌爾航空於二零一三年三月開辦往來馬埃島與香港的航班服務。

定期貨運航空服務方面，Silk Way West Airlines於二零一二年九月開辦往來巴庫與香港的航班服務；順豐航空於二零一二年十月開辦往來廈門與香港，以及往來寧波與香港的服務；K-Mile Air於二零一三年一月復辦往來曼谷與香港的服務。

Hong Kong Express Airways Limited (HKE) launched scheduled passenger services to Guilin, but suspended services to Changsha, Haikou, Hangzhou, Kunming, Okinawa, Osaka, Sanya and Xian. By the end of March 2013, HKE operated scheduled services to six destinations.

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 Macao.

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

Services by Non-Hong Kong Carriers

For scheduled passenger services, Mongolian Airlines Group launched services from Ulaanbaatar in June 2012. AirAsia Inc. commenced services from Clark and Peach Aviation started services from Osaka in July 2012. Air Astana commenced services from Almaty in August 2012. Globus started services from Novosibirsk in October 2012. TonleSap Airlines launched services from Siem Reap in December 2012. Air Seychelles started services from Mahe Island in March 2013.

For scheduled all-cargo services, Silk Way West Airlines started services from Baku in September 2012. SF Airlines commenced services from Xiamen and Ningbo in October 2012. K-Mile Air resumed services from Bangkok in January 2013.



航班事務組負責檢討民航法例和提出修訂建議，以及與國際組織商討航空事務和活動。
The Air Services Division reviews and proposes changes to civil aviation legislation and liaises with international organisations on aviation issues and activities.

年內，有四家航空公司停辦往返香港的定期航班服務，計有：孟加拉航空（二零一二年九月）；天津航空（二零一二年十月）；中國國際貨運航空（二零一二年十二月）；以及Silk Way Airlines（二零一三年三月）。

年內，民航處共簽發162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，並處理約3 500宗更改定期航班服務的申請，另又簽發876張經營往來香港包機服務的許可證。

運價

年內，民航處共處理1 449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（不包括燃油附加費的申請）。客運票價雖有輕微調整，但大致保持穩定。年內，本處批准航空公司繼續收取客運和貨運燃油附加費，以彌補部分因油價波動而增加的營運成本。客運燃油附加費每月審批一次。年內，本處共處理1 405宗燃油附加費的申請，並在本處網站公布核准的燃油附加費。

During the year, four airlines suspended their scheduled services to and from Hong Kong. They are Biman Bangladesh Airlines in September 2012, Tianjin Airlines in October 2012, Air China Cargo in December 2012, and Silk Way Airlines in March 2013.

During the year, CAD issued 162 operating permits to airlines for operation of scheduled services to and from Hong Kong, and processed around 3 500 applications for changes to the schedules. A total of 876 permits were also issued for the operation of charter services to and from Hong Kong.

TARIFFS

During the year, CAD processed 1 449 tariff filings (excluding filings concerning fuel surcharges) for carriage of passengers and cargo on scheduled services to and from Hong Kong. Notwithstanding some minor adjustments, the passenger fares remained steady over the period. Airlines were allowed to continue levying passenger and cargo fuel surcharges to partially recover the increase in operational costs due to fluctuations in aviation fuel prices. The passenger fuel surcharges were reviewed on a monthly basis. In the year, the department processed 1 405 filings on adjustment of fuel surcharges. The approved fuel surcharges were published in the department's website.



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，出席七次只限國家參加的國際民航組織會議，並以「中國香港」的名義，參加25次並非以國家為單位的國際民航組織會議。以上32次會議的詳情見附錄乙。此外，本處與國際民航組織往來的函件共有294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，本處因應亞太經合組織的23項要求，提供民航技術事宜的意見及資料。

空運牌照

根據《空運（航空服務牌照）規例》（第448A章），香港註冊航空公司若希望營辦定期航班運載乘客、郵件或貨物，必須先向空運牌照局申請營運牌照。由二零一二年四月一日至二零一三年三月三十一日，航班事務組因應13宗牌照申請，向空運牌照局提供與航班事務相關的資料和統計數字。

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 its responsibilities under the regional air navigation procedures of ICAO, the department continued to participate actively in ICAO's activities. During the year, representatives of the department attended seven ICAO meetings which were limited to states as part of the delegation of the People's Republic of China, and 25 ICAO meetings which were not so limited, using the name "Hong Kong, China". Details of these 32 meetings are provided in Appendix B. The department also exchanged 294 letters with ICAO. The majority of these letters involved comments and information on technical matters related to civil aviation.

ACTIVITIES OF APEC

The department continued to support aviation related activities and initiatives of APEC using the name "Hong Kong, China". During the year, the department handled 23 requests relating to APEC, which involved provision of comments and information on technical matters related to civil aviation.

AIR TRANSPORT LICENSING

In accordance with the Air Transport (Licensing of Air Services) Regulations (Chapter 448A), Hong Kong-registered aircraft operator who wishes to operate scheduled services to carry passengers, mail or cargo must apply to the Air Transport Licensing Authority for a licence for such operation. From 1 April 2012 to 31 March 2013, the Air Services Section had provided the Air Transport Licensing Authority with air services-related information and statistics with regard to 13 licence applications.





技術行政組人員正在收集飛機噪音數據。
An officer of the Technical Administration
Section collecting aircraft noise data.

飛機噪音管理

民航處一向關注飛機噪音對居民的影響，並實施了一系列根據國際民航組織指引訂立的噪音消減措施。年內，本部繼續使用飛機噪音及航迹監察系統，監察噪音消減措施的實施情況和各地區的噪音水平。該系統由16個室外噪音監察站和一台中央電腦伺服器組成，電腦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。

由二零一二年四月一日至二零一三年三月三十一日，本部共處理446宗飛機噪音投訴。為加強與社區的聯繫，民航處多次派員出席立法會和區議會舉辦的會議，解釋各項噪音消減措施。

直升機場的發展

民航處繼續監察跨境直升機服務設施的長遠發展。對於跨境直升機場的規劃，政府認為有需要因應各項考慮因素，重新評估跨境直升機服務的需求，以及位於啟德發展區的跨境直升機場的發展時間表。政府會考慮把已預留的土地，暫時轉作其他臨時用途。

支援本地商業直升機服務的設施方面，香港會議展覽中心附近的永久政府直升機坪，已於二零一二年五月建成。該直升機坪除供政府飛行服務隊使用外，還會開放與本地商業直升機公司共同使用。

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. During the year, the division continued to monitor the implementation of the noise mitigation measures and aircraft noise situation in various districts through a computer-based Aircraft Noise and Flight Track Monitoring System. The system comprises 16 outdoor noise monitoring terminals and a central computer server which correlates the flight tracks provided by radars and the noise recorded by the noise monitoring terminals.

From 1 April 2012 to 31 March 2013, the division handled 446 aircraft noise complaints. To enhance liaison with the community, the department attended various meetings organised by the Legislative Council and District Councils to explain the noise mitigating measures implemented.

HELIPORT DEVELOPMENT

CAD continued to monitor the long-term development of facilities for cross-boundary helicopter services. On the planning of the proposed cross boundary heliport within the Kai Tak Development Area, taking into account various considerations, the administration considered it necessary to re-assess the demand for cross-boundary helicopter services and the timeframe for the development of the heliport. The administration will consider developing the reserved site for other temporary use in the meantime.

For the facilities to support domestic commercial helicopter services, construction work of the permanent government helipad near the Hong Kong Convention and Exhibition Centre was completed in May 2012. Apart from serving the operations of the Government Flying Service, the helipad would also be made available for domestic commercial helicopter operations on share-use basis.

附錄甲

截至二零一三年三月往來香港的定期航班服務的城市/ 機場變動情況
(與二零一二年三月比較)：

新增航點

新航點	經營者
1. 北海	中國東方航空
2. 清邁	港龍航空
3. 峴港	港龍航空
4. 貴陽	香港航空
5. 呼倫貝爾	香港航空
6. 海得拉巴	國泰航空
7. 怡朗	宿霧太平洋航空
8. 濟州	港龍航空
9. 克拉斯諾亞爾斯克	AirBridgeCargo Airlines
10. 麗江	四川航空和中國東方航空
11. 馬埃島	塞舌爾航空
12. 新西伯利亞	Globus和AirBridgeCargo Airlines
13. 西雅圖	達美航空
14. 暹粒	通里薩航空
15. 塔什干	Aerologic
16. 特里凡得琅	阿聯酋航空
17. 仰光	港龍航空
18. 煙台	中國東方航空
19. 銀川	中國東方航空
20. 埃里溫 (又名葉里溫)	亞特拉斯航空

刪減航點

刪除的航點	前經營者
1. 開羅	漢莎貨運航空
2. 丹佛	聯合航空
3. 底特律	達美航空
4. 長灘島	宿霧太平洋航空
5. 馬斯喀特	馬田航空和阿聯酋航空
6. 湛江	中國南方航空

Appendix A

Changes in Cities/Airports Served by Scheduled Services to and from Hong Kong as at March 2013
(compared with March 2012) :

Additions

New Points

Operated By

1. Beihai	China Eastern Airlines
2. Chiang Mai	Hong Kong Dragon Airlines
3. Da Nang	Hong Kong Dragon Airlines
4. Guiyang	Hong Kong Airlines
5. Hulunbeier	Hong Kong Airlines
6. Hyderabad	Cathay Pacific Airways
7. Ilo-Ilo	Cebu Pacific Air
8. Jeju	Hong Kong Dragon Airlines
9. Krasnoyarsk	AirBridgeCargo Airlines
10. Lijiang	Sichuan Airlines and China Eastern Airlines
11. Mahe Island	Air Seychelles
12. Novosibirsk	Globus and AirBridgeCargo Airlines
13. Seattle	Delta Air Lines
14. Siem Reap	TonleSap Airlines
15. Tashkent	Aerologic
16. Thiruvananthapuram	Emirates
17. Yangon	Hong Kong Dragon Airlines
18. Yantai	China Eastern Airlines
19. Yinchuan	China Eastern Airlines
20. Yerevan	Atlas Air

Deletions

Deleted Points

Previously Operated By

1. Cairo	Lufthansa Cargo Ag
2. Denver	United Air Lines
3. Detroit	Delta Air Lines
4. Kalibo	Cebu Pacific Air
5. Muscat	Martinair Holland N.V. and Emirates
6. Zhanjiang	China Southern Airlines

附錄乙

二零一二年四月至二零一三年三月期間，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. 亞太飛行氣象情報管理小組第十次會議	泰國曼谷	二零一二年四月十七日至十九日
2. 亞太地區空中交通管理應變計劃小組第一次會議	泰國曼谷	二零一二年四月十七日至二十日
3. 廣播式自動相關監察系統實施專責小組第11次會議	韓國濟州	二零一二年四月二十四日至二十七日
4. 東南亞航道檢討專責小組第六次會議暨東南亞航空交通服務協調小組第19次會議	泰國曼谷	二零一二年四月三十日至五月四日
5. 法律委員會特別小組委員會第一次會議	加拿大蒙特利爾	二零一二年五月二十二日至二十五日
6. 亞太地區航空安全小組轄下意外調查專責小組第一次會議	泰國曼谷	二零一二年六月六日至八日
7. 亞太地區航行規劃和實施小組轄下航空交通服務、航空情報服務和搜索與救援分組第22次會議	泰國曼谷	二零一二年六月二十五日至二十九日
8. 加強航空貨物保安和簡化手續聯合會議	新加坡	二零一二年七月五日至六日
9. 亞太地區航行規劃和實施小組轄下通訊/導航/監察及氣象分組第16次會議	泰國曼谷	二零一二年七月二十三日至二十七日
10. 亞太地區無障礙航空交通管理規劃小組第二次會議	日本東京	二零一二年八月六日至十日
11. 亞太地區航空安全小組第二次會議	泰國曼谷	二零一二年八月二十一日至二十四日
12. 亞太地區航空安全小組轄下意外調查專責小組第二次會議	中國澳門	二零一二年九月六日至七日
13. 亞太地區航行規劃和實施小組第23次會議	泰國曼谷	二零一二年九月十日至十四日
14. 航空保安高級別會議	加拿大蒙特利爾	二零一二年九月十二日至十四日
15. 亞太地區區域航空安全小組第二次會議	泰國曼谷	二零一二年十月八日至九日
16. 亞太地區民航局局長第49次會議	印度新德里	二零一二年十月八日至十二日

Appendix B

ICAO conferences and meetings attended by representatives of CAD between April 2012 and March 2013:

<i>Name of Conference or Meeting</i>	<i>Venue</i>	<i>Dates</i>
1. 10 th Meeting of Asia Pacific OPMET Management Task Force	Bangkok, Thailand	17 - 19 April 2012
2. 1 st Meeting of the Regional Air Traffic Management Contingency Plan Task Force	Bangkok, Thailand	17 - 20 April 2012
3. 11 th Meeting of Automatic Dependent Surveillance-Broadcast Implementation Task Force	Jeju, Republic of Korea	24 - 27 April 2012
4. 6 th Meeting of the Southeast Asia Route Review Task Force and 19 th Meeting of the South-East Asia Air Traffic Services Coordination Group	Bangkok, Thailand	30 April - 4 May 2012
5. 1 st Meeting of the Special Sub-Committee of the Legal Committee	Montréal, Canada	22 - 25 May 2012
6. 1 st Meeting of the Asia Pacific Regional Aviation Safety Team-Accident Investigation Ad hoc Working Group	Bangkok, Thailand	6 - 8 June 2012
7. 22 nd Meeting of the Air Traffic Services, Aeronautical Information Services, Search and Rescue Sub-Group of the Asia Pacific Air Navigation Planning and Implementation Regional Group	Bangkok, Thailand	25 - 29 June 2012
8. Joint Conference on Enhancing Air Cargo Security and Facilitation	Singapore	5 - 6 July 2012
9. 16 th Meeting of the Communications/ Navigation/ Surveillance and Meteorology Sub-Group of the Asia Pacific Air Navigation Planning and Implementation Regional Group	Bangkok, Thailand	23 - 27 July 2012
10. 2 nd Meeting of the Asia Pacific Seamless Air Traffic Management Planning Group	Tokyo, Japan	6 - 10 August 2012
11. 2 nd Meeting of the Asia Pacific Regional Aviation Safety Team	Bangkok, Thailand	21 - 24 August 2012
12. 2 nd Meeting of the Asia Pacific Regional Aviation Safety Team-Accident Investigation Ad hoc Working Group	Macao, China	6 - 7 September 2012
13. 23 rd Meeting of the Asia Pacific Air Navigation Planning and Implementation Regional Group	Bangkok, Thailand	10 - 14 September 2012
14. High-level Conference on Aviation Security	Montréal, Canada	12 - 14 September 2012
15. 2 nd Meeting of the Regional Aviation Safety Group, Asia and Pacific Regions	Bangkok, Thailand	8 - 9 October 2012
16. 49 th Conference of Directors General of Civil Aviation, Asia and Pacific Regions	New Delhi, India	8 - 12 October 2012

附錄乙 (續)

會議名稱	地點	日期
17. 電離層研究專責小組第二次會議	泰國曼谷	二零一二年十月十五日至十七日
18. 第12次空中航行會議	加拿大蒙特利爾	二零一二年十一月十九日至三十日
19. 法律委員會特別小組委員會第二次會議	加拿大蒙特利爾	二零一二年十二月三日至七日
20. 廣播式自動相關監察系統東南亞及孟加拉灣分區 實施工作小組第八次會議	緬甸仰光	二零一二年十二月五日至七日
21. 性能導航專責小組第十次會議	斐濟楠迪	二零一二年十二月十日及十三日
22. 亞太地區無障礙航空交通管理規劃小組第三次會議	印度真奈	二零一三年一月二十一日至二十五日
23. 2013年亞太地區互助航空保安計劃技術會議	泰國曼谷	二零一三年一月二十三日至二十四日
24. 航空環境保護委員會第九次會議	加拿大蒙特利爾	二零一三年二月四日至十五日
25. 亞太地區搜索與救援專責小組第一次會議	泰國曼谷	二零一三年二月五日至八日
26. 南亞及印度洋航空交通管理協調小組第三次會議 暨東南亞航空交通管制協調小組第20次會議	泰國曼谷	二零一三年二月十八日至二十二日
27. 亞太地區航空安全小組轄下意外調查專責小組 第三次會議	泰國曼谷	二零一三年三月十一日至十二日
28. 亞太地區飛行氣象情報簡報交換小組第11次會議	泰國曼谷	二零一三年三月十一日至十三日
29. 航空電訊網實施協調小組第八次會議	印尼雅加達	二零一三年三月十八日至二十一日
30. 第六屆全球航空運輸會議	加拿大蒙特利爾	二零一三年三月十八日至二十二日
31. 區域化規劃和實施小組與區域航空安全小組全球 協調會議	加拿大蒙特利爾	二零一三年三月十九日
32. 亞太地區飛行程序計劃主導委員會第四次會議	泰國曼谷	二零一三年三月二十五日至二十七日

Appendix B (continued)

<i>Name of Conference or Meeting</i>	<i>Venue</i>	<i>Dates</i>
17. 2 nd Meeting of Ionospheric Studies Task Force	Bangkok, Thailand	15 - 17 October 2012
18. Twelfth Air Navigation Conference	Montréal, Canada	19 - 30 November 2012
19. 2 nd Meeting of the Special Sub-Committee of the Legal Committee	Montréal, Canada	3 - 7 December 2012
20. 8 th Meeting of the Southeast Asia and Bay of Bengal Sub-Regional Automatic Dependent Surveillance-Broadcast Implementation Working Group	Yangon, Myanmar	5 - 7 December 2012
21. 10 th Meeting of the Performance-Based Navigation Task Force	Nadi, Fiji	10 - 13 December 2012
22. 3 rd Meeting of the Asia Pacific Seamless Air Traffic Management Planning Group	Chennai, India	21 - 25 January 2013
23. Technical Meeting of the Cooperative Aviation Security Programme – Asia Pacific 2013	Bangkok, Thailand	23 - 24 January 2013
24. 9 th Meeting of the Committee on Aviation Environmental Protection	Montréal, Canada	4 - 15 February 2013
25. 1 st Meeting of the Asia Pacific Regional Search and Rescue Task Force	Bangkok, Thailand	5 - 8 February 2013
26. Combined 3 rd Meeting of the South Asia / Indian Ocean Air Traffic Management Coordination Group and 20 th Meeting of the South-East Asia Air Traffic Services Coordination Group	Bangkok, Thailand	18 - 22 February 2013
27. 3 rd Meeting of the Asia Pacific Regional Aviation Safety Team-Accident Investigation Ad hoc Working Group	Bangkok, Thailand	11 - 12 March 2013
28. 11 th Meeting of the Asia Pacific Regional OPMET Bulletin Exchange Working Group	Bangkok, Thailand	11 - 13 March 2013
29. 8 th Meeting of the Aeronautical Telecommunication Network Implementation Co-ordination Group	Jakarta, Indonesia	18 - 21 March 2013
30. 6 th Worldwide Air Transport Conference	Montréal, Canada	18 - 22 March 2013
31. Planning and Implementation Regional Group and Regional Aviation Safety Group Global Coordination Meeting	Montréal, Canada	19 March 2013
32. 4 th Meeting of the Asia Pacific Flight Procedure Programme Steering Committee	Bangkok, Thailand	25 - 27 March 2013



民航處工程項目

The Civil Aviation Department Project

行政長官在二零零六至零七年《施政綱領》提出，更換民航處航空交通管制（空管）系統，並在機場島興建民航處新總部，以鞏固香港在區域航空服務的領導地位，維持航空業的長遠發展。本處為落實這項綱領，展開上述工程項目。

In order to reinforce Hong Kong's leading position in regional aviation services and sustain the long-term growth of the industry, the Chief Executive announced in the 2006-07 Policy Agenda an initiative to replace the air traffic control (ATC) system and develop a new CAD Headquarters on the Airport Island. The Civil Aviation Department Project (CAD Project) was initiated to implement the commitment.





民航處工程項目

The Civil Aviation Department Project

計劃目的為更換現有空管系統，以應付航空交通量預計的增長，並興建民航處新總部，以容納新的航空交通管制中心（空管中心），以及讓本處各專責分部在同一大樓辦公，從而提升效率，為業界和公眾提供一站式服務。

興建民航處新總部

香港機場管理局董事會撥出位於港龍/ 中大廈以北、東輝路兩旁，佔地共約28 000平方米的土地，用以興建本處新總部。

建築工程以「設計及建造」方式進行，優點在於初期地面工程和各階段的詳細內部設計工作可同步進行，加快工程進度。此外，整個項目的設計亦可顧及民航處同事的實際需要，以滿足用家的要求。

新總部由三幅用地組成：東輝路以西的設施大樓、東輝路以東的空管中心大樓和辦公及培訓大樓，以及空管中心大樓以北的天線場。

新總部的建築面積約為41 000平方米，其中包括新空管中心及相關設施、監管及培訓辦公室和其他設施。新設施包括中央考試中心、飛機意外調查設施、多用途會議廳、航空教育徑及圖書館暨資源中心。

The CAD Project aims to replace the existing ATC system in order to handle the projected growth in air traffic while developing a new CAD Headquarters to accommodate a new Air Traffic Control Centre (ATCC) and all CAD functional divisions under one roof to enhance efficiency and provide one-stop service to the industry and the public.

Construction of the new CAD Headquarters

A site north of the Dragonair House/CNAC Building on both sides of Tung Fai Road with a combined site area of approximately 28 000 m² was allocated by the Board of Directors of Airport Authority Hong Kong for the construction of the new CAD Headquarters.

A design-and-build (D&B) approach is adopted for the construction of the new CAD Headquarters. Such an approach has a merit in running the initial ground works and detailed internal design stages concurrently, thus enhancing the efficiency of the construction programme. Besides, the practical needs from CAD colleagues could be integrated into the entire building design so as to meet users' requirements.

The new headquarters comprises three sites: the Facilities Building located to the west of Tung Fai Road, the ATCC Building and the Office and Training Building located to the east of Tung Fai Road, and the Antenna Farm located to the north of the ATCC Building.

The new CAD Headquarters has a gross floor area of 41 000 m² to accommodate the new ATCC and its associated facilities, regulatory and training offices and other facilities. New facilities will include a centralised examination centre, aircraft accident investigation facilities, a multi-purpose auditorium, an aviation education path and a library-cum-resource centre.





天台花園裝設了光導太陽光收集裝置。
Solar lighting collectors with fibre optic solar tracking are installed at the roof garden.



多用途會議廳。
Multi-purpose auditorium.



航空教育徑的展品讓訪客加深了解航空交通管制的運作情況。
Visitors understand ATC operations better through exhibits at the Aviation Education Path.

本處以可持續發展、環保及教育為新總部主要設計主題。各個專責分部集中於同一地點辦公，可精簡行政及文書支援，提高生產力。大樓設計備有足夠空間和彈性供日後擴展，以應付公眾及業界對航空服務的長遠需求。

新總部的綠化面積超過三成，並設有多項環保設施和裝置，例如太陽能光伏板、日光導管、光導太陽光收集裝置、太陽能照明裝置和雨水循環系統等，是香港綠化程度最高的建築物之一。

培訓設施方面，新總部設有演講室、工作室、考試室、多用途會議廳、會議室，可支援各式各樣的會議、研討會及培訓課程。此外，航空教育徑設有三個展覽廳及機場看台，各有不同主題，讓訪客通過文字、展品及多媒體互動系統了解民航運作和發展。圖書館暨資源中心亦可讓民航處與業界伙伴和其他政府機構交流資訊及資源。

Sustainability, environmental friendliness and education are the main design themes of the CAD Headquarters. The co-location of the functional various divisions will enhance productivity by streamlining administrative and logistic support. Adequate space and flexibility for future expansion which are vital to sustain the long-term growth in service demand from the general public and the industry are also incorporated into the building design.

There is over 30% of landscaped/planted area, as well as environmentally friendly installations like photovoltaic panels, light pipes, solar lighting collectors with fibre optic solar tracking, solar powered pole lighting and rainwater recycling system. The new headquarters is one of the greenest building premises in Hong Kong.

With training facilities such as lecture rooms, workshops, examination rooms, multi-purpose auditorium and conference rooms, the new headquarters will be able to support a wide range of conferences, seminars and training courses. The Aviation Education Path consisting of three exhibition galleries and an airport viewing deck is also constructed. Through text, artifacts and interactive multimedia systems, visitors will be able to better their understanding of civil aviation operations and development. In addition, the library-cum-resource centre will also allow CAD to share information and resources with industry partners and government counterparts.



辦公及培訓大樓於二零一二年六月十四日正式移交民航處。
The Office and Training Building was officially handed over to CAD on 14 June 2012.

項目進展

工程雖然規模龐大兼且複雜，但得到民航處全體人員和決策局全力支持，再加上督導委員會領導有方，工作組又同心協力，計劃進展平穩。

二零零九年五月二十日，香港寶嘉有限公司獲批「設計及建造」合約，並於同日接收工地。在建築署、民航處及承建商攜手合作下，地盤工程得以如期開展，並於二零零九年十一月二十七日舉行奠基典禮。

新總部大樓主體工程於二零一一年一月完成，而平頂儀式則於同年七月十一日舉行。隨着工程在成本預算內如期完成，新總部的辦公及培訓大樓於二零一二年六月十四日正式移交民航處，而各專責分部亦已於同年十二月陸續遷入辦公。

各專責分部於二零一二年十二月陸續遷入新總部辦公。
Functional divisions were relocated to the new headquarters in phases in December 2012.

Project Progress

With the full support from the entire department and the policy bureau, and through the capable leadership of the Steering Committee and the concerted effort of the Project Team, the CAD Project had been making steady progress despite its scale and complexity.

The D & B contract was awarded to Dragages Hong Kong Limited on 20 May 2009, and the site was taken over by the contractor on the same day. Having maintained effective coordination, the Architectural Services Department, CAD and the contractor were able to proceed as scheduled and the foundation stone laying ceremony was held on 27 November 2009.

The superstructure of the new headquarters was completed in January 2011 and the topping-out ceremony was held on 11 July 2011. With the headquarters built according to schedule and within budget, the Office and Training Building was officially handed over to CAD on 14 June 2012. Functional divisions were also relocated in phases in December 2012.



新空管中心。
New ATCC.

更換空管系統

更換空管系統涉及15個主要系統和三個培訓設施項目。新系統屬世界最先進系統之一，安全告警功能和運作效率均有所提升，在設計方面亦同時兼顧未來系統擴展能力、互通能力、人機界面工程學、安全管理和環保等不同範疇。新系統足以處理香港飛行情報區超越二零三零年的預期航班流量。

新空管中心於二零一三年完成設備的安裝工作後，新系統需要通過一系列嚴格的測試，並根據國際航空安全管理標準及程序完成和通過相關的安全評審。在完成新空管系統的總體整合測試和空管人員的培訓後，預計新空管中心可於二零一五年啟用。

Replacement of ATC System

The replacement of the ATC system involves 15 major systems and three training facilities items. The new system will be one of the most advanced systems with enhanced safety features and operational efficiency. System expandability, inter-operability, ergonomics, safety management and environmental issues were also taken into consideration in the design. It will be able to handle the projected air traffic movements operating in the Hong Kong Flight Information Region up to year 2030 and beyond.

With the completion of equipment installation for the new ATCC in 2013, the new systems will need to undergo a series of stringent tests and satisfy safety assessment conducted in accordance with international aviation safety management standards and procedures. The commission of the new ATCC is estimated to be in 2015 after completing the comprehensive system integration tests and controller training.



財務 Finance

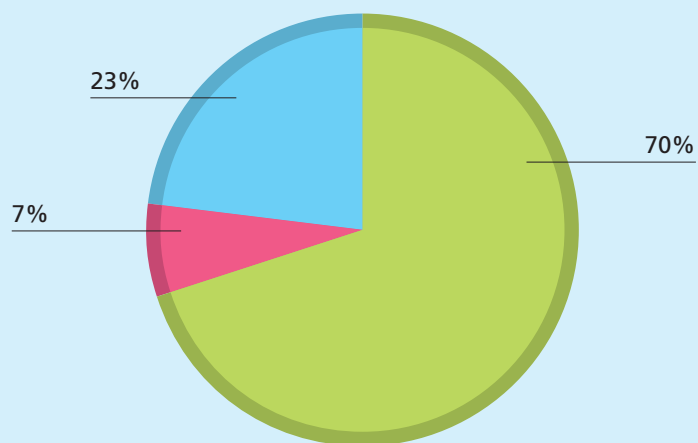
本處收入與開支

本處收入主要源自提供航空交通服務、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。在二零一二至二零一三年度，本處的總收入達10.51億元，同期總經營支出（包括政府其他部門提供服務的成本）為11.19億元。年內資本開支達20.38億元，主要項目包括興建民航處新總部，衛星通訊、導航及監察/航空交通管理系統，以及更換航空交通管制系統。本處向來謹慎理財及在精簡的架構下仍維持有效率的運作。

DEPARTMENTAL REVENUE AND EXPENDITURE

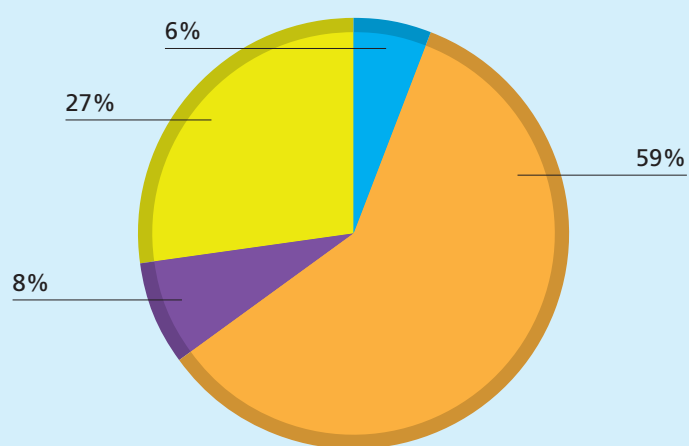
The revenue of the department is mainly derived from the provision of air traffic services, en-route navigation services and licensing of local airlines, aircrews, maintenance organisations, aeronautical engineers, training organisations and the Hong Kong International Airport. Total revenue in 2012-2013 amounted to \$1,051 million. Total operating expenditure including costs of services provided by other government departments for the same period amounted to \$1,119 million. Capital expenditure during the year amounted to \$2,038 million, and major items included construction of New Civil Aviation Department Headquarters, Satellite-based Communications, Navigation and Surveillance/Air Traffic Management Systems and Replacement of Air Traffic Control System. The department exercises prudence in financial management and operates in a lean but efficient manner.

收入分析 Analysis of Revenue (2012-2013)



百萬元\$(M)	
航空交通 Air Traffic Services	735
過境導航 En-route Navigation Services	238
牌照及其他收費 Licences and Other Fees	78
Total	1,051

開支分析 Analysis of Expenditure (2012-2013)



百萬元\$(M)	
員工支出 Staff	655
經營及行政支出 General Expenses	302
折舊 Depreciation	93
維修 Maintenance	69
Total	1,119