2013-2014 年度報告
Annual Report

民 航 處
CIVIL AVIATION
DEPARTMENT

致力保障
航空安全
Maintaining in Aviation
Safety

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訂的相關條文

借助先進航空導航系統科技，推動航空業發展

確保建立、達到和維持航空導航服務高水平的安全標準

在香港飛行情報區內維持既安全快捷，又秩序井然的航空交通

確保在香港飛行情報區內提供精準及快捷的航空資訊服務和適時及高效的警報服務

確保香港搜救區內飛機出現緊急情況和發生意外時，適當協調搜索和救援行動

制訂和貫徹執行機場安全及航空保安標準

確保香港註冊的飛機和以香港為基地的航空公司符合既定的適航及運作標準

確保香港認可的飛機維修機構符合國際標準

確保香港註冊的空勤人員和飛機維修工程師符合國際標準

制定策略並積極採取措施，確保所有航機運作符合相關可承受的安全水平，盡量減低航空安全風險

監察航空公司有否遵守雙邊民用航空運輸協定

制定有效措施以減少飛機噪音對社區的影響

透過協調及綜合系統法，推廣及管理航空安全

以公正持平方式進行意外調查，確定肇事原因及實況，以保障人命安全和防止同類意外再次發生

Positioning Hong Kong as a leading centre of international and regional aviation

Maintaining an effective legal system for the implementation of relevant provisions under applicable civil aviation related international conventions

Facilitating the growth of aviation through the application of leading edge technology in Air Navigation Systems

Ensuring that a high standard of safety in the provision of air navigation services is established, achieved and maintained

Maintaining a safe, orderly and expeditious flow of air traffic within the Hong Kong Flight Information Region

Ensuring that an accurate and efficient aeronautical information service and a timely and effective alerting service within the Hong Kong Flight Information Region are provided

Ensuring proper coordination of search and rescue operation in the event of aircraft emergencies and accidents within the Hong Kong Search and Rescue Region

Setting and enforcing aerodrome safety and aviation security standards

Ensuring compliance with established airworthiness and flight operations standards by Hong Kong registered aircraft and locally based airlines

Ensuring compliance with international standards by Hong Kong approved aircraft maintenance organisations

Ensuring compliance with international standards by Hong Kong licensed flight crew and aircraft maintenance engineers

Developing strategies and implementing proactive measures to minimise safety risks to aviation by ensuring that all operations are conducted in conformity with the respective acceptable levels of safety

Monitoring compliance by airlines with bi-lateral Air Services Agreements

Developing workable measures to minimise the impact of aircraft noise on local communities

Promoting and managing aviation safety through a coordinated and integrated systems approach

Conducting fair and impartial accident investigations to determine the circumstances and causes of accidents with a view to the preservation of life and avoidance of accidents in the future

我們的信念 Our Values

安全可靠	Safety and security
快捷高效	Efficiency and effectiveness
嚴守標準	Compliance with standards
專業誠信	Professionalism and integrity
團隊精神	Teamwork
持續發展	Sustainable development

目錄
Contents

處長**報告**
Director-General's **Review**

羅崇文太平紳士, AE,
Médaille de l'Aéronautique
民航處處長

Mr Norman Shung-man LO, JP, AE,
Médaille de l'Aéronautique
Director-General of Civil Aviation

我很高興向大家發表自二零零四年出任民航處處長以來，第十份回顧民航處工作的報告。隨着民航處總部於二零一三年五月二十三日正式啟用，各分部已遷入新大樓工作，為公眾和業界提供便捷的一站式服務之餘，同事間的合作也更趨緊密，共同迎接新挑戰。

I am pleased to present my tenth annual review of the performance of the Civil Aviation Department (CAD) since my appointment as the Director-General of Civil Aviation in 2004. With the CAD Headquarters officially opened on 23 May 2013, various divisions have now moved into our new home to provide efficient and convenient one-stop service for the general public as well as the aviation industry. Colleagues also take on challenges through closer collaboration.

航空業發展迅速，安全標準及營運要求不斷提高，國際民用航空組織（國際民航組織）於本年度正式推行全球安全監督審計計劃持續監察模式，並實施新的《國際民用航空公約》附件19──安全管理，以提升安全規管。有見及此，民航處與時並進，整合內部資源，合併飛行標準及適航部的飛行安全組和航班事務部的統計組，成立新的安全策略辦公室，統籌和協調安全管理工作。同時，意外調查組也編入航班事務部，與安全策略辦公室從根本着手，共同鞏固安全管理工作，以期避免航空意外和事故發生。新辦公室於年內舉辦多項活動，例如大型國際會議和研討會、資訊交流簡介會和工作坊等，加強業界協作和提高安全意識，成果甚豐。

今年，香港國際機場的航空交通量保持暢旺，航班升降量達377 478架次，客運量達6 009萬人次，貨運量達418萬公噸，三者皆創新高。本處於年內將香港國際機場雙跑道的最高容量遞增至每小時65架次，機場更先後於二零一三年八月十五日及九月二十四日錄得單日1 145架次的航班升降紀錄。儘管工作日益繁重，但是同事克盡己職，繼續提供優質服務，並積極改善空域及空管系統，以應付日漸增加的航空運輸需求。二零一三年八月，本處與新加坡和泰國的空管部門合作，為區內三個樞紐機場，推出協同信息交換機制。三地的空管中心利用電子信息平台，

Safety standards and operational requirements in the thriving aviation industry are ever-demanding. This year, the International Civil Aviation Organization (ICAO) rolled out the Universal Safety Oversight Audit Programme Continuous Monitoring Approach, and implemented the new Annex 19 "Safety Management" to the Convention on International Civil Aviation, in order to enhance safety oversight. In the light of this, by re-organising existing resources, the Flight Safety Office of the Flight Standards and Airworthiness Division and the Statistics Office of the Air Services Division (ASD) were timely merged to form the Strategic Safety Office (SSO) to oversee and coordinate safety management responsibilities. At the same time, the Accident Investigation Office was also put under the ASD to join hands with the SSO to fundamentally strengthen safety management with a view to preventing air accidents and incidents. The restructured offices have made a fruitful start by holding events like large-scale international conferences and seminars, information sharing briefings and workshops to promote industrial collaboration and safety awareness.

During the year, air traffic remained busy at Hong Kong International Airport (HKIA). Aircraft movements, passenger throughput and cargo throughput reached 377 478, 60.09 million and 4.18 million tonnes respectively, all hitting record highs. The declared hourly capacity for dual runway operations at HKIA was increased to 65, and daily flight movements reached 1 145 aircraft on both 15 August and 24 September 2013. In spite of the heavy workload, colleagues continued to do their best to provide quality service and to improve airspace and air traffic management systems to cope with the increasing air traffic demand. In August 2013, air traffic control (ATC) units of Hong Kong, Singapore and Thailand introduced the Collaborative Information Exchange mechanism in the respective regional hub airports. Important air traffic information like local weather conditions, airport arrival capacity, expected air traffic delays, and so on,

處長**報告**
Director-General's **Review**

交換航空交通運作的重要信息，例如當地天氣、機場處理着陸航機的容量、預計航班延誤的情況等。這種區域之間的合作，有助協調管理地區之內的航空交通流量，因應影響空管運作的重大事項未雨綢繆、及時應對，從而確保這三個樞紐機場順利運作，提高效率。

另外，本處積極響應國際民航組織推行的新措施和計劃。其中為推動多機組飛行員執照（飛機）培訓課程，與本地一家航空公司合作，制定相關課程。二零一三年十一月二十九日，多機組飛行員執照首屆課程共有12位學員畢業，成為本港首批獲發此類執照的飛行員。該批畢業學員現已投身機師之列，而第二和第三批學員也相繼開始受訓。

為增加市民對民航界的認識，引發青年人投身航空業的興趣，本處於總部設立了航空教育徑。由二零一四年一月起，除經預約以團體形式安排導賞參觀之外，訪客更可無須預

could be communicated amongst the ATC units via electronic means. Such partnership allowed a coordinated regional air traffic flow management solution to pre-empt and address events of ATC operational significance in a timely manner, which in turn safeguarded the smooth and efficient operations of the three hub airports.

In addition, CAD actively supported ICAO's new initiatives and plans. In order to promote the Multi-Crew Pilot's Licence (MPL) (Aeroplane) training programme, CAD worked with a local operator to develop the curriculum of the programme. On 29 November 2013, 12 cadets graduated from the MPL course to become the first batch of pilots issued with MPL in Hong Kong. While they are now pilots in service, the second and third batches of cadets have also started their training.

To enhance citizens' understanding of civil aviation and arouse the youth's interest in joining the industry, CAD set up an Aviation Education Path at our headquarters. From January 2014 onwards, in addition to guided tours by appointments, walk-in visitors are also welcome, making it easier to acquire

約便自由參觀教育徑，大大方便市民大眾學習一般航空知識。自教育徑啟用以來，到訪人次已超過一萬，參觀者包括一般市民、中小學和大學學生、制服團體成員、本地與海外的航空業界人士，成績令人鼓舞。

民航處得以維持安全和有效率的航空運輸系統，全賴同事與業界伙伴各司其職，通力合作，本人謹此衷心致謝。

來年，香港將會主辦第五十一屆亞洲及太平洋區民航局局長會議。我期望與亞太區各民航當局更緊密合作，共同迎接未來挑戰。如會議主題所言，本處在提供可靠、有效率的服務的同時，會與各界加強聯繫，致力鞏固香港作為區域與國際航空樞紐的地位。

general aviation knowledge. Since the Education Path's opening, we are pleased to have received more than 10 000 visitors, including the general public, school and university students, uniform group members, as well as local and overseas aviation practitioners.

Thanks to the unfailing support and co-operation of my colleagues and industry partners, CAD has been able to maintain a safe and efficient air transport system. Taking this opportunity, I wish to extend my sincere appreciation to all of them.

In the year ahead, Hong Kong will host the 51st Conference of Directors General of Civil Aviation, Asia and Pacific Regions. I anticipate that better co-operation will be fostered among civil aviation authorities in the Asia and Pacific regions to rise to future challenges. As the theme of the Conference suggests, apart from providing reliable and efficient services, CAD will strive to strengthen collaboration with stakeholders in order to consolidate Hong Kong's position as a regional and international aviation hub.

民航處處長
羅崇文

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

圖片攝於新航空交通管制中心大樓空中花園。
The photo was taken at the Roof Garden of the new Air Traffic Control Centre Building.

左起 *from left*

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)
廖志勇機長
Captain Victor Liu Chi-yung

助理處長（機場標準）
Assistant Director-General
(Airport Standards)
林偉珊女士
Miss Priscilla Lam Wai-shan

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

總庫務會計師
Chief Treasury Accountant
王少琼女士
Ms Melody Wong Siu-king

助理處長（飛行標準）
Assistant Director-General
(Flight Standards)
曾煜本先生
Mr Tsang Yuk-poon

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

組織圖
Organisation **Chart**

民航處處長
Director-General of Civil Aviation

羅崇文太平紳士, AE, Médaille de l'Aéronautique
Mr Norman Shung-man LO, JP, AE,
Médaille de l'Aéronautique

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

航班事務部
Air Services Division

助理處長（航班事務）
Assistant Director-General
(Air Services)

廖志勇機長
Captain Victor Liu Chi-yung

機場安全標準部
Airport Standards Division

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

林偉珊女士
Miss Priscilla Lam Wai-shan

航空交通工程及標準部
Air Traffic Engineering and Standards Division

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

飛行標準及適航部
Flight Standards and Airworthiness Division

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

曾煜本先生
Mr Tsang Yuk-poon

航空交通管理部
Air Traffic Management Division

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

財務部
Finance Division

總庫務會計師
Chief Treasury Accountant

王少瓊女士
Ms Melody Wong Siu-king

行政部
Administration Division

部門秘書
Departmental Secretary

張振聲先生
Mr Ivan Cheung Chun-shing

意外調查部 Accident Investigation Division
副總意外調查主任 Deputy Chief Inspector of Accidents

意外調查

* 民航處處長亦是總意外調查主任。
意外調查部只在有需要時才運作，
屆時會從其他分部抽調經特別訓練
的人員作支援。

Accident Investigation

* The Director-General of Civil Aviation is also Chief
Inspector of Accidents. The Accident Investigation
Division is mobilised only when required by drawing
specially trained staff from other divisions.

大事紀要
Calendar of Events

2013

五月一日
1 May

民航處與時並進，成立安全策略辦公室，推行安全管理新措施。

CAD established a new office named the Strategic Safety Office to take on new safety management responsibilities.

五月二十三日
23 May

民航處新總部正式啟用，各專責分部集中於新總部工作，提升運作效率。

CAD Headquarters was officially opened with all functional divisions located under one roof to enhance operational efficiency.

九月十九日
19 September

對途經香港空域進出澳門國際機場的航班，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-RNP 1 SID & STAR procedures for flights transiting Hong Kong airspace into and out of Macao International Airport.

十月二十二日
22 October

民航處與解放軍廣州軍區空軍司令部（廣州空軍）就珠江三角洲（珠三角）空域事宜舉行會議。

CAD had a meeting on Pearl River Delta (PRD) airspace issues with the Guangzhou Air Command (GAC) of the People's Liberation Army (PLA).

十月二十七日
27 October

香港國際機場雙跑道的運作容量增至每小時65班。

The declared runway capacity for dual runway operations at HKIA increased to 65 movements per hour.

十月二十九日
29 October

香港與內地和澳門特別行政區簽署《相互認可航空器維修培訓機構批准合作安排》。

The Cooperation Arrangement on Mutual Acceptance of Approval of Aircraft Maintenance Training Organisations was signed with Mainland China and Macao SAR.

大事**紀要**
Calendar of **Events**

十一月七日
7 November

國家民用航空局空中交通管理局、中南地區
管理局、中南地區空中交通管理局、廣州空
軍司令部及民航處在廣州召開高層會議，檢
視珠三角空域優化計劃。

Directors General of the Air Traffic
Management Bureau (ATMB) of the Civil
Aviation Administration of China (CAAC),
Central & Southern Regional Administration
of CAAC, Middle & South Regional ATMB,
PLA GAC and CAD met in Guangzhou to
review the PRD airspace enhancement plan.

十一月十四日
14 November

就《國際民用航空公約》新訂立的附件19，
以及全球安全監督審計計劃持續監察模式的
持續審查新措施，為業內多個界別舉行簡介
會，藉此交流資訊。附件19是國際民用航空
組織三十多年來首份增訂的附件。

A multi-disciplinary industry briefing was
held on the new ICAO Annex 19 and
the continuous audit initiatives under the
Universal Safety Oversight Audit Programme
Continuous Monitoring Approach. The
new Annex was the first ICAO Annex to be
adopted in over 30 years.

十一月二十九日
29 November

民航處和港龍航空公司的共同努力取得豐碩
成果──多機組飛行員執照首屆課程共有12名
學員畢業。

Twelve cadet pilots graduated from the
first Hong Kong Multi-Crew Pilot's Licence
programme, signifying a fruitful outcome
through close collaboration between the
CAD and Hong Kong Dragon Airlines.

2014

十二月十二日
12 December

實施四個特殊授權所需導航性能進場程序，以及四個相關的基本導航性能RNP 1標準儀表進場程序。

Implemented four Required Navigation Performance Authorisation Required Approach Procedures and four associated Basic-RNP 1 STAR procedures.

十二月十二日
12 December

強制規定採用L642和M771航道的飛機，必須裝設廣播式自動相關監察機載設備。

Mandated ADS-B equipage for aircraft flying on routes L642 and M771.

一月九日
9 January

歐洲航空安全局簽發首個香港補充型號合格證。

European Aviation Safety Agency (EASA) validated the first Hong Kong Supplemental Type Certificates (STC).

三月十九日
19 March

與機電工程署就服務水準協議舉行續約簽署儀式。新協議為期五年，於二零一四年四月生效，二零一九年三月屆滿。

A signing ceremony was held with the Electrical & Mechanical Services Department to renew the Service Level Agreement for another 5-year period from April 2014 to March 2019.

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
(二零零九年四月至二零一四年三月) *(April 2009 – March 2014)*

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
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%
2013-2014	**377 478**	**6%**	**60 085 950**	**6%**	**4 176 970**	**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
(二零零九年四月至二零一四年三月) *(April 2009 – March 2014)*

財政年度 Fiscal Year	航班總數* Flights Handled*	年度升跌百分比 Annual % Change
2009-2010	427 181	-4%
2010-2011	485 153	14%
2011-2012	531 438	10%
2012-2013	563 642	6%
2013-2014	**602 392**	**7%**

* 「航班總數」乃由香港民航處航空交通管理部每年所處理的班機數目。其中包括：
   (1) 在香港國際機場升降的國際及本地航班；
   (2) 所有飛越香港飛行情報區而不在本港升降的航班；
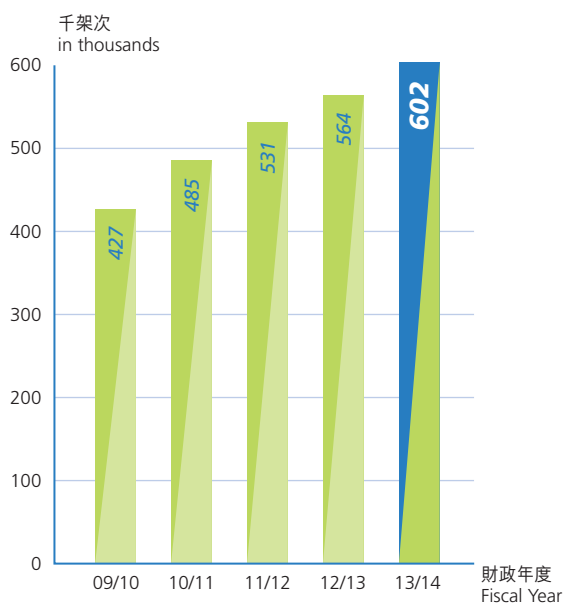   (3) 由航空交通管理部處理進出澳門國際機場的航班。

* [Flights Handled] is the total number of aircraft handled by Air Traffic Management Division of CAD in the year. It includes:
   (1) international and local aircraft movements at Hong Kong International Airport;
   (2) flights transiting the Hong Kong Flight Information Region not landing Hong Kong;
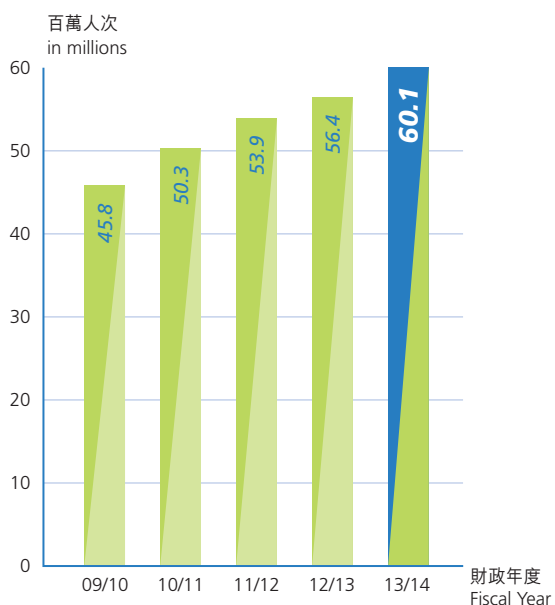   (3) flights landing and departing Macao International Airport handled by the Air Traffic Management Division.

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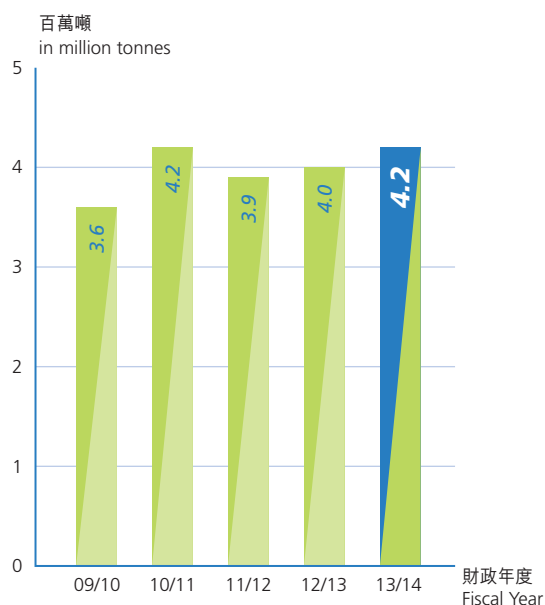## Five-Year Aircraft Movement at the Hong Kong International Airport

千架次
in thousands

財政年度 Fiscal Year	值
09/10	280
10/11	316
11/12	339
12/13	355
13/14	377

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

千架次
in thousands

財政年度 Fiscal Year	值
09/10	427
10/11	485
11/12	531
12/13	564
13/14	602

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

百萬人次
in millions

財政年度 Fiscal Year	值
09/10	45.8
10/11	50.3
11/12	53.9
12/13	56.4
13/14	60.1

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

百萬噸
in million tonnes

財政年度 Fiscal Year	值
09/10	3.6
10/11	4.2
11/12	3.9
12/13	4.0
13/14	4.2

航空交通**管理**
Air Traffic **Management**

航空交通管理部負責在國際民用航空組織（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，以及搜索和救援服務。

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

航空交通**管理**
Air Traffic **Management**

航空交通運作

在本財政年度內，航空交通管理部處理了378 617架次在香港國際機場升降的國際及本地航班，並為223 775架次飛越香港飛行情報區的航班（當中包括50 299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6.4%，而飛越香港的航班數目則增加7.9%。

跑道升降容量

通過推行多項空域和航空交通管理優化措施，香港國際機場雙跑道的最高容量，已於年內遞增至每小時65架次。香港國際機場更先後於二零一三年八月十五日及九月二十四日錄得1 145架次的年度單日航班升降最高紀錄。

航空交通管制主任執照考試和覆核

為維持空管運作的應有表現和安全標準，本部的訓練及安全組會為航空交通管制主任（空管主任）安排各類考試。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255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、在職培訓導師證書和流量管制證書。

AIR TRAFFIC OPERATIONS

During the financial year, ATMD handled 378 617 international and local aircraft movements at Hong Kong International Airport (HKIA). In addition, the division handled 223 775 flights overflying HKFIR (including 50 299 flights into and out of Macao International Airport). Compared with the previous year, the number of aircraft movements at HKIA and overflights increased by 6.4% and 7.9% respectively.

Runway Capacity

With the introduction of various enhancement measures in airspace and air traffic management, the handling capacity for the two runways at HKIA increased to a maximum of 65 movements per hour within the year. The 1 145 flight movements handled at HKIA on 15 August and 24 September 2013 was the single day record high of the year.

Examinations and Revalidations of Air Traffic Control Officer Ratings

The Training and Safety Section of ATMD carried out practical examinations on Air Traffic Control Officers (ATCOs) to ensure that the required performance and safety standards in air traffic control (ATC) operations are maintained. In the year, 255 practical examinations were conducted in the three ATC streams – Aerodrome Control, Approach Control and Area Control. In addition, ATMD also issued Assistant Controller Certificates, ATC Meteorological Reporter Certificates, On-the-job Instructor Certificates and Flow Control Certificates to officers who had attained these qualifications.

招聘和培訓空管人員

招聘和培訓見習航空交通管制主任

空管人員的招聘和培訓工作必須審慎規劃和管理，以應付預期的航空交通增長和人手需求。由於本地就業市場欠缺具備所需資歷的航空交通管制主任（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。

在招聘見習空管主任期間，合資格的申請人須通過一系列測試，包括才能測驗筆試、工作性格測驗和面試。合格者繼而會在評估中心接受更深入的認知能力測試和性格評估。

RECRUITMENT AND TRAINING OF ATC STAFF

Recruitment and Training of Student ATCOs

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, individuals are normally recruited as Student Air Traffic Control Officers (SATCOs). After specialised training, they will progress from SATCOs to ATCOs.

During the recruitment of SATCO, suitable candidates will go through a series of written aptitude test, occupational personality quiz and interview. Further in-depth assessment on cognitive ability and personality traits will be conducted in the Assessment Centre for candidates who pass the previous tests.

雷達模擬器訓練。
Radar Simulator training.

航空交通管理部全日24小時為香港飛行情報區內的飛機提供航空交通管制服務。
ATMD provides round-the-clock ATC services to aircraft operating in HKFIR.

航空交通管理 Air Traffic Management

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

除本地培訓外，見習空管主任也會到海外修讀基本空管課程，內容廣泛，包括空管程序、氣象、雷達操作、飛行原理等航空知識，以擴闊他們對空管運作的閱歷。年內，共有17名見習空管主任修畢海外課程。

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

Apart from local training, SATCOs also attend overseas basic ATC courses, a wide coverage of aviation topics including ATC procedures, meteorology, radar operations and principles of flight will be introduced to broaden their exposure to various aspects of ATC operations. During the year, 17 SATCOs had completed such overseas training.

航空交通管制大樓和後備塔台。
Air Traffic Control Complex and Backup Tower.

見習空管主任在航空交通控制塔台模擬機進行訓練。
SATCOs receiving training at the ATC Tower Simulator.

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

截至二零一四年三月三十一日，空管主任的編制有297人，航空交通事務員則有114人。

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活動。

年內，本部舉辦了46項空管培訓課程，受訓人員從中取得多項專業資格，獲發47項空管執照。此外，又為74名塔台管制員舉辦塔台管制複修課程，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、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，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。

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。

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 2014, the ATCO and Air Traffic Flight Services Officer establishment numbered at 297 and 114 respectively.

ATC Training for Other Ranks

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

During the year, 46 ATC training courses were conducted, leading to the issuance of 47 ATC ratings and the attainment of various professional ATC qualifications. Aerodrome control refresher training was conducted for 74 Aerodrome Control personnel. The refresher training aims to ensure controllers' competency in responding to unusual circumstances, such as poor weather operations and aircraft emergencies. In addition, senior ATCOs were selected to attend advanced training in Safety Management Systems, Operations of Modern Aircraft, 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.

Other Training Offered

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

空管主任在航空交通控制塔當值。
ATCOs working at the Air Traffic Control Tower.

新空管／飛行程序

在天氣惡劣時更加準確估算跑道容量

每逢天氣惡劣，香港國際機場跑道的航班容量必然下降。空管人員要維持安全而高效的航空交通運作，實在並不容易。二零一四年初，本部就雷暴及強側風對跑道容量的影響完成研究，其後把研究結果納入本處的跑道容量估算系統，以協助空管人員在天氣漸趨惡劣時適當地評估跑道容量可能受到的影響，從而保障在惡劣天氣下航空交通仍能安全有序、高效率地運作。

與區內主要機場交換航空交通運作的重要信息

二零一三年八月，香港民航處航空交通管理部與新加坡和泰國的空管部門合作，為區內三個樞紐機場（即香港國際機場、新加坡樟宜機場和曼谷素汪那普機場），推出協同信息交換機制。三地的空管中心利用電子信息平台甚或通過電話會議，交換航空交通運作的重要信息，例如當地天氣、機場處理着陸航機的容量、預計航班延誤的情況，以及為規管航空交通流量而採取的空管措施。這種區域之間的合作，有助協調管理次地區之內的航空交通流量，因應影響空管運作的重大事項（例如惡劣天氣）未雨綢繆，及時應對，從而確保這三個樞紐機場順利運作，提高效率。

性能導航措施

香港國際機場於二零一三年一月成功實施採用衛星導航技術的基本導航性能RNP 1標準儀表離場程序和標準儀表進場程序。同年九月，這兩套程序擴大至適用於途經香港空域進出澳門國際機場的航班。

NEW ATC / FLIGHT PROCEDURES

Enhancement in Runway Capacity Estimation during Adverse Weather Situation

Under the influence of inclement weather, the runway acceptance rate at HKIA will inevitably be adversely impacted. Maintenance of safe and efficient air traffic operation in these situations is always a challenging task to ATC. In early 2014, ATMD completed a study on the impact of thunderstorm and strong crosswind on the runway acceptance rate. The findings of the study were subsequently incorporated into CAD's runway capacity estimation system. The enhanced capability for controllers to recognise developing bad weather situation and make appropriate assessment of the possible impact on runway capacity would safeguard the safe, orderly and efficient air traffic operation under adverse weather conditions.

Exchange of Operationally Important Information with Other Major Regional Airports

In August 2013, ATMD of Hong Kong CAD introduced the Collaborative Information Exchange mechanism to enable the exchange of operationally important information related to the flows of air traffic amongst three major ATC authorities serving the three regional hub airports, namely HKIA, Changi Airport in Singapore, and Suvarnabhumi Airport in Bangkok. Information like local weather conditions, airport arrival capacity, expected air traffic delays, and any tactical measures imposed by ATC to regulate traffic flows are communicated amongst the ATC units via electronic means and, when necessary, via teleconference facility. Such collaboration allows a coordinated sub-regional Air Traffic Flow Management solution to pre-empt and address events of ATC operational significance, such as poor weather, in a timely manner, which in turn safeguards the smooth and efficient operations of the three hub airports.

Performance-Based Navigation Initiatives

Following the successful implementation of Basic-RNP 1 Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR) procedures, which utilise satellite navigation technology at HKIA in January 2013, similar flight procedures were implemented for flights transiting Hong Kong airspace into and out of Macao International Airport in September 2013.

珠江三角洲（珠三角）地區航空交通管理計劃

年內舉行了兩次重要的高層會議。二零一三年十月，民航處與解放軍廣州軍區空軍司令部（廣州空軍）參謀長鄭元林將軍率領的代表團，於民航處總部會面，討論珠三角的空管及空域議題。會上，廣州空軍表明全力支持各項優化措施。同年十一月，國家民用航空局空中交通管理局、中南地區管理局、中南地區空中交通管理局、廣州空軍及民航處在廣州召開會議，檢視珠三角空域優化計劃，並重申支持推行空域優化工作。

得到內地有關單位的全力支持，珠三角地區空管規劃與實施三方工作組來年將繼續推展各項優化措施，包括提升珠三角地區機場離場航班放行的機制，即以電子化方式取代現時以話音進行協調，以及在香港與廣州飛行情報區之間增加一個空管移交點。

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

During the year, two important high level meetings were conducted. In October 2013, CAD had a discussion on PRD air traffic management and airspace issues at the CAD Headquarters with a People's Liberation Army Guangzhou Air Command (GAC) delegation led by Chief of Staff, General Zheng Yuanlin. GAC expressed their full support to the PRD enhancement initiatives. In November 2013, the Directors-General of the Air Traffic Management Bureau (ATMB) of the Civil Aviation Administration of China (CAAC), Central & Southern Regional Administration of CAAC, Middle & South Regional ATMB, GAC and CAD met in Guangzhou to review the PRD airspace enhancement plan. All participating authorities reaffirmed their support to the plan.

With the full support of relevant Mainland authorities, the PRD Air Traffic Management Planning and Implementation Tripartite Working Group will continue to pursue various enhancement measures for the PRD Region in the ensuing year such as an improved mechanism i.e. using electronic means in lieu of voice communication for coordinating the release of departures from the airports located in the PRD Region, and the establishment of an additional transfer point between Hong Kong and Guangzhou Flight Information Regions.

電訊服務

本部航空通訊組年內處理的資訊量明顯增加，其中通過固定航空通訊服務處理的信息達41 408 515個，較上一年度增加 8%。至於航空氣象廣播服務，年內為航機提供氣象報告合共336 161次，數字與去年相若。

航班時刻分配

香港機場航班協調辦公室繼續按照國際航空運輸協會發布的《世界航班時刻準則》，以中立、高透明度和公平的方式，分配航班時刻，以確保高效地使用現有的機場資源。年內，航班協調辦公室分配接近390 000個於香港國際機場運作的航班時刻。

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。安全管理系統提供有效方法查明安全隱患，採取行動減低安全風險，監測安全績效並不斷改進。本部的安全風險管理和安全保證工作，全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，本部會先評估安全風險並採取緩解措施。

至於監測與衡量安全績效方面，本部遵照規管要求，定期並適時向航空交通管理標準組提交安全績效目標報告和安全績效指標報告，以便監管。本部按照規定，按季度提交了四輪目標和指標報告。此外，為使安全管理系統精益求精，本部在報告期內就各個主要職能範疇進行了四次內部安全審查，同時繼續為航空交通管理標準組提供所需支援，協助安全監管工作。

TELECOMMUNICATIONS SERVICES

The total number of messages handled by the Telecommunications Unit of ATMD increased considerably in the year. On Aeronautical Fixed Service, 41 408 515 messages were handled, representing an increase of 8% as compared with last year. On Aeronautical Broadcast Service, the total number of weather messages broadcast to aircraft in flight amounted to 336 161, which was similar to that of last year.

SLOT ALLOCATION

In accordance with the International Air Transport Association's Worldwide Slot Guidelines, the Hong Kong Schedule Coordination Office (HKSCO) continued to allocate slots in a neutral, transparent and non-discriminatory manner in order to ensure the efficient utilisation of existing airport resources. During the year, the HKSCO had allocated close to 390 000 slots for operations at HKIA.

SAFETY MANAGEMENT SYSTEM (SMS)

ATMD continued putting in substantial efforts to maintain a high level of safety in the provision of air traffic services through the implementation and continuous optimisation of its SMS. The SMS provides effective means to identify safety hazards, implement actions to reduce safety risks, monitor safety performance and achieve continuous improvement in safety performance. Safety risk management and safety assurance are applied in accordance with ICAO provisions and CAD regulatory requirements. Safety risk assessment are conducted and mitigation processes are introduced before any significant changes to the air traffic management systems, equipment and procedures can be implemented.

With respect to safety performance monitoring and measurement, ATMD complied with the regulatory requirements by timely and regularly submitting to the Air Traffic Management Standards Office (ATMSO) the reports on Safety Performance Targets and Safety Performance Indicators for regulatory oversight. Four rounds of submission were presented on a quarterly basis as required. To ensure the continuous improvement in safety performance, four internal audits were conducted on different key functional areas of ATMD within the report period. In the meantime, the division continued to provide necessary support to the ATMSO in facilitating regulatory oversight activities.

本部又繼續為同事提供合適的安全管理系統培訓，以推廣安全文化。除空管的基本培訓和複訓單元外，本部還推行了規劃周全的安全管理系統培訓計劃，向所有同事灌輸安全管理概念。

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

搜索和救援（搜救）服務

年內，本部繼續為同事舉辦搜救簡報會，又為已取得搜救資格的空管主任提供複修訓練，讓他們以書面練習形式重溫搜救知識。為掌握搜救服務在世界各地的最新發展，本部與區域搜救機關和國際搜救機關保持密切聯繫，又繼續參加本地和國際搜救會議，並派員參與機場和飛機緊急事故演習。

SEARCH AND RESCUE (SAR) SERVICES

During the year, ATMD continued the efforts to provide SAR briefings to staff and provided refresher training to all SAR qualified ATCOs in the form of a paper exercise to refresh their SAR knowledge. To keep abreast of latest global development on SAR services, ATMD maintained close liaison with regional and international SAR authorities and continued to participate in local and international SAR meetings and also attended airport and aircraft emergency drills.

海外空管會議和研討會

年內，航空交通管理部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。

OVERSEAS ATC MEETINGS AND CONFERENCES

During the year, the division actively participated 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.

解放軍廣州軍區空軍司令部鄭元林參謀長率領代表團到訪民航處總部，就珠三角空域議題與民航處進行討論，並參觀新空管設施。
Chief of Staff of Guangzhou Air Command of the People's Liberation Army, General Zheng Yuanlin, led a delegation to visit CAD Headquarters. The delegation had a discussion on PRD airspace issues with CAD and a tour of the new ATC facilities.

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**

更換空管系統

現時的空管系統自一九九八年香港國際機場啟用時投入運作，至今已超過15年。為應付未來的航空交通需求，本處於二零零七年獲立法會批准撥款15.65億元更換現有的系統。新系統的安裝工程已大致完成，系統測試和驗收的籌備工作則正在進行中。新系統須通過一連串嚴格測試，並根據既定的國際航空安全管理標準及程序通過評審，確保運作安全、可靠穩定。待完成系統整合、試行運作，並為工程和空管人員提供足夠的技術和操作培訓後，新的航空交通管制中心（空管中心）預計可於二零一五年分階段投入服務。

Replacement of ATC Systems

The existing ATC systems have been in use for over 15 years since the opening of Hong Kong International Airport (HKIA) in 1998. To meet the future air traffic demand, the Legislative Council approved $1.565 billion in 2007 for the replacement of the existing ATC systems. The installation of the new systems had been largely completed while the preparation work relating to system and acceptance tests are in progress. To ensure the new systems are safe, reliable and stable, they have to undergo a series of stringent tests and satisfy assessments in accordance with the established international aviation safety management standards and procedures. Upon the successful completion of system integration, trial runs, as well as adequate technical and operational training for the engineering and operational staff, the new Air Traffic Control Centre (ATCC) is planned to commence operation in phases in 2015.

新航空訊息轉送系統正在新航空電訊中心內進行驗收測試。
Acceptance test of the new aeronautical messaging system is carried out at the new Aeronautical Network Centre.

新航空交通管制系統已安裝在控制塔台內，並進行系統測試。
The new ATC system is installed and being tested at the Air Traffic Control Tower.

國際民用航空組織航空系統組塊升級

民航處按照國際民用航空組織（國際民航組織）航空系統組塊升級的框架，並參考《亞太區無縫航空交通管理計劃書》訂明的優先次序，與業界共同制定策略並分階段在香港實施各個升級項目。本處於二零一三年五月舉辦了簡報會，向業界介紹航空系統組塊升級的內容，並爭取業界支持落實計劃。同年八月，本處制定了第一階段升級的實施計劃書，並於二零一四年年初向國際民航組織遞交該計劃書。

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

In accordance with ICAO's Aviation System Block Upgrades (ASBU) framework and with reference to the priorities stipulated under the Seamless Air Traffic Management Plan for the Asia and Pacific regions, CAD collaborated with the aviation industry to develop strategies for phased implementation of ASBU modules in Hong Kong. In May 2013, CAD organised a briefing to the industry on the details of ASBU, and solicited their support for implementation. In August 2013, CAD formulated an implementation plan for the first phase of ASBU, and submitted the same to ICAO in early 2014.

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

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

年內，本部致力推廣安全意識，繼續舉辦安全訓練和推廣活動，並全力配合航空交通管理標準組對衛星通訊、導航及監察／航空交通管理系統、外站運作情況，以及技術安全事故報告和調查過程所進行的審計和視察。為達到持續改善安全管理系統整體表現的目標，本部定期進行內部審計和視察，並培訓共29位同事成為認可審計人員，積極參與相關工作。

Throughout the year, AESD maintained its momentum in safety promotion, and continued to organise safety training and promotion activities. Besides, the division provided full support to the Air Traffic Management Standards Office's (ATMSO) audit and inspections on the satellite-based Communications, Navigation, Surveillance/Air Traffic Management (ATM) systems, outstation operations, and technical safety occurrence reporting and investigation process. To achieve continuous improvement of the overall performance of the Safety Management System (SMS), regular internal audits or inspections were conducted. A total of 29 colleagues were trained to become approved auditors to provide support to the conduct of relevant internal audit or inspection work.

新航空交通管制中心內的駐場工程師工作席。
Duty Engineer working position in the new ATCC.

新航空交通管制系統正進行系統測試。
The new ATC system is being tested.

為空管系統定期分析安全數據和密切監察安全趨勢，是有效的安全管理系統的重要一環。隨着為期三年的安全表現指標和目標於二零一三年年底屆滿，本部根據最近五年的安全數據，與維修服務機構共同更新一套安全表現指標和目標。該套指標和目標經航空交通管理標準組審議和接納，有效期至現有系統過渡至新空管中心為止。另外，本部根據國際民航組織對負責航空交通安全運作的電子工程人員所訂定的指引，與維修服務機構合作，加強對前線維修人員的培訓計劃和工作指引，納入了更多安全、風險評估和管理、及安全保證等方面的元素，令空管系統的運作更安全可靠。

Regular analysis of safety data and close monitoring of safety trend are integral activities of an effective SMS. With the three-year Safety Performance Indicators/Targets (SPI/SPT) expiring in end 2013, efforts were made jointly with the maintenance service provider to develop a new set of SPI/SPT based on the latest five-year safety statistics. The new values, which would be valid until the transition into the new ATCC, were reviewed and accepted by the ATMSO. In addition, the division worked with the maintenance service providers to strengthen the training scheme and working guidance for frontline maintenance staff in accordance with the ICAO Air Traffic Safety Electronics Personnel guideline. In the new scheme, more elements on safety, risk assessment and management, safety assurance, etc., were incorporated, enhancing the safe and reliable operations of the ATC systems.

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，民航處已開發、使用並提供以下八項與衛星通訊、導航及監察/航空交通管理相關的系統和服務：

（一）飛前放行指示雙向數據鏈路系統

截至二零一四年三月底，飛前放行指示雙向數據鏈路服務的使用率為78%，使用服務的航空公司則增至70家。預計未來數年會有更多航機使用這項服務，空管人員與飛行員的通訊效率將進一步提升。

（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電訊網和航空交通服務訊息處理系統已投入運作。年內，香港與曼谷就航空交通服務訊息處理系統進行了多項測試，結果令人滿意。該系統已於二零一四年九月二十二日投入運作。

另外，本部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。

SATELLITE-BASED CNS/ATM SYSTEMS

To comply with the ICAO Global Air Navigation Plan, CAD developed and implemented eight CNS/ATM systems and services as highlighted below:-

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

The utilisation rate of the Pre-Departure Clearance Two-way Datalink Service was 78% and the number of participating airlines increased to 70 as at the end of March 2014. 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, a new ATN and AMHS circuit between Hong Kong and Macao was put into operation. Upon satisfactory completion of the ATN and AMHS testing between Hong Kong and Bangkok during the year, the new ATN and AMHS were put into operational use on 22 September 2014.

The Air Traffic Service Inter-facility Data Communication over Aeronautical Fixed Telecommunication Network with Sanya and Taipei was put into operation to enhance flight safety and operational efficiency in communication with adjacent ATC centres.

民航處於政府飛行服務隊兩架直升機上安裝廣播式自動相關監察應答機，並展開飛行試驗，評估使用廣播式自動相關監察進行低空監察的覆蓋情況。
CAD installed ADS-B transponders on two GFS helicopters for launching flight trials to assess low-level surveillance coverage using ADS-B.

（三）先進場面活動引導和控制系統

鑑於機場環境時有轉變，本部於二零一三年四月安排了供應商研究先進場面活動引導和控制系統訊號的可靠度和覆蓋範圍，收集和分析訊號的性能表現數據，以採取措施提升系統表現。我們正與供應商和香港機場管理局商討執行檢測研究報告的建議，以增強系統訊號在機場的覆蓋能力。

（四）廣播式自動相關監察系統

為配合國際民航組織於亞太地區實施廣播式自動相關監察，民航處於二零一三年第四季順利完成驗收八個廣播式自動相關監察地面站，並開發了一套廣播式自動相關監察數據分析系統，用來監察和分析裝有廣播式自動相關監察設備的飛機的數據，以提高香港飛行情報區內的飛行安全。另一方面，民航處已在政府飛行服務隊轄下兩架直升機設置廣播式自動相關監察應答機，並進行飛行測試，以評估地面站在本港低空範圍的綜合訊號覆蓋情況。結果顯示地面站的覆蓋在低空範圍內可補充大部分現有雷達未能覆蓋的範圍，有助提升航空交通管制員的監察能力和增加對實際情況的了解。

(iii) Advanced Surface Movement Guidance and Control System

To cater for the on-going changes of the airport environment, AESD has engaged an equipment supplier to conduct a signal integrity and coverage study of the Advanced Surface Movement Guidance and Control System (A-SMGCS) in April 2013 by collecting and analysing performance data for the implementation of enhancement measures. Coordination is underway with the supplier and Airport Authority Hong Kong (AAHK) for executing the recommended measures in the study report to enhance A-SMGCS signal coverage performance at HKIA.

(iv) Automatic Dependent Surveillance-Broadcast System

To align with ICAO's Regional Plan for implementing Automatic Dependent Surveillance – Broadcast (ADS-B), CAD has commissioned eight ADS-B ground stations in the fourth quarter of 2013, and developed an ADS-B data analysis system to monitor and analyse data from ADS-B equipped aircraft for enhancing the aviation safety within the Hong Kong Flight Information Region. Besides, CAD also arranged with the Government Flying Service (GFS) to mount ADS-B transponders on two of their helicopters, and supported flight trials to assess integrated signal coverage at low level provided by the ground stations within the Hong Kong territories. The results revealed that coverage at low level provided by the ground stations could supplement most of the places where existing radar had no coverage due to terrain limitations. This could enhance surveillance capabilities and situational awareness of the air traffic controllers.

二零一四年三月十九日機電工程署與民航處續簽服務水準協議。
The Electrical and Mechanical Services Department and CAD renewed the Service Level Agreement on 19 March 2014.

民航處於二零一三年五月舉辦簡報會，向業界介紹航空系統模組升級的內容。
In May 2013, CAD organised briefing sessions to industry partners on the details of ASBU.

（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。隨着操作經驗不斷累積，我們在年內專注微調系統功能，以配合不斷增加的航空交通流量。

（六）陸基增強系統

為使飛機進場和着陸程序更為精確，民航處正研究機場安裝陸基增強系統在技術上是否可行。除完成初步選址研究外，本部也結合了民航處和地政總署設於全港各處的全球衛星導航系統監測站所收集到的實時數據，設立全港衛星數據庫。本部又於二零一三年開始安裝電離層閃爍監測系統。民航處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。

（七）電子飛行進程單系統

年內，電子飛行進程單系統運作暢順，鞏固了航空交通控制塔人員利用電子飛行進程單的操作經驗，有助順利過渡至新空管中心以無紙方式運作。此外，根據電子飛行進程單系統的合約提供的綜合顯示器，已於二零一三年十月啟用。綜合顯示器可以集中顯示來自多方面的運作資料，大大簡化了控制塔的運作。

（八）機場協同決策

二零一三年七月，本部推出桌面版及手機版的機場協同決策互聯網平台。該平台獲業界大力支持，成為協同決策日後於本港以至亞太區進一步發展和推行的基礎。

(v) Arrival Manager System

The Arrival Manager (AMAN) System was procured to achieve higher on-time arrival rate, more efficient use of airspace and automated service to controllers. With more operational experience gained, efforts were focused to fine-tune the system during the year so as to cope with the ever increasing air traffic growth.

(vi) Ground-Based Augmentation System

To augment the precision of aircraft approach and landing operations, CAD has been conducting a technical feasibility study for installing a Ground-Based Augmentation System (GBAS) at HKIA. Apart from completing a preliminary siting study, a territory-wide satellite database was established by combining real time data collected by CAD's and Lands Department's Global Navigation Satellite System Monitoring Stations located around the territory. Installation of an Ionospheric Scintillation System also commenced in 2013. The effort made would 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.

(vii) Electronic Flight Strip System

Satisfactory operation of the Electronic Flight Strip System (EFSS) in the past year prepared tower controllers for a smooth transition into paperless operation at the new ATCC. As part of the EFSS contract, Integrated Display Units were put in operation in October 2013 to integrate and display operational information from multiple sources to streamline tower operation.

(viii) Airport Collaborative Decision Making

AESD successfully launched the Airport Collaborative Decision Making (CDM) platform in both desktop and mobile versions through the Internet in July 2013 with very encouraging feedback and support. The platform provided a basis for further development and implementation of a local and regional CDM.

航空交通管理標準組

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

安全監督工作

為持續監察航空安全，空管標準組年內對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/目標和促進安全的措施的實施成效。檢查範圍包括航空交通管理的運作、程序、培訓和考試，安全管理系統的應用，空管設備/系統，安全事故調查，以及安全建議的跟進行動。檢查人員巡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、航空網絡中心、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。曾經接受檢查的其他空中導航服務領域包括通訊、導航及監察，航空氣象，搜索和救援，有關飛機運作的空中導航服務程序，以及航空資訊服務（包括繪製航圖）。

自二零一二年本部應用安全管理系統以來，空管標準組一直與本部同事合作，改善和優化該系統。此外，通過空中導航服務標準協調會議，空管標準組定期和空中導航服務提供單位檢討應用安全管理系統的事宜，共同努力持續發展並改進該系統。

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 the Air Traffic Management Division (ATMD) and AESD in 2013-14. 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, Aeronautical Network Centre, Backup ATCC and Backup Tower, Training Unit, radar simulator and Tower simulator. Inspections on CNS, meteorological information, search and rescue, Procedures for Air Navigation Services–Aircraft Operations, as well as Aeronautical Information Services (including aeronautical charting) domains of air navigation services were also conducted.

Since the implementation of AESD SMS in 2012, ATMSO has continued to work with AESD colleagues for SMS improvement and enhancement of the SMS. Additionally, through the Air Navigation Services Standards Coordination Meeting, ATMSO regularly reviewed in collaboration with air navigation service provider (ANSP) issues pertinent to the implementation of SMS to promote continual development and improvement.

航空界不同專業的學員參與由航空交通標準部導師教授的「安全管理體系入門」課程。
Trainees from various aviation professions joined the "Introduction to SMS" training course delivered by ATMSO instructor.

空管標準組於二零零九年認可了航空交通管理部的安全管理系統，有效期為五年。因此，空管標準組的審查人員於二零一四年二月，對該系統展開續期審查，過程順利。航空交通管理部的安全管理系統其後獲續期至二零一九年。

年內，空管標準組繼續聯同航空交通管理部的調查人員，就所有空管事故展開初步調查，然後再按既定指引，決定之後的調查形式。空管標準組又繼續監察事故調查報告所建議的跟進行動的進展和成效。

航空交通安全評核委員會繼續每半年召開會議，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、空管標準組和航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負責航空安全的人員。

年內，空管標準組為履行安全監督職責，繼續積極參與更換空管系統的項目並提供意見，確保現有系統安全過渡至新系統。

為了客觀和有系統地加強安全監察措施，空中導航服務提供單位必須訂立安全表現指標和完善的實施計劃，以達到空管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

空管標準組定期覆檢和更新現有的規管文件，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的《空中航行服務資料通告》。

In 2009, ATMSO accepted the SMS implemented by ATMD for a period of five years. Hence in February 2014, an SMS renewal inspection was conducted by ATMSO inspectorate staff and the ATMD SMS was successfully renewed up to 2019.

As part of its duties, ATMSO continued to participate in the preliminary investigation 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. Also ATMSO continued to monitor the progress and effectiveness of post-incident follow-up actions on the recommendations put forward in the investigation reports.

Review of ATC incidents and other safety occurrences continued to be conducted half yearly by the Air Traffic Safety Assessment Committee, which comprised representatives from the Flight Standards and Airworthiness Division, ATMSO, ATMD, and flight safety personnel of major local airline operators and GFS.

As part of the safety regulatory oversight responsibilities, ATMSO continued to participate 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 conducts 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.

受訓學員與航空交通標準組導師合照。
The class of trainees with the instructors from ATMSO.

空管人員執照

空管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99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225份空管級別執照和合格證書。

空管主任執照電子數據庫已經啟用，以提升空管主任執照簽發程序的效率。該系統經過擴展之後，現在可供航空交通管理部一起使用，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。

認可培訓機構

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機構，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，並須接受空管標準組監管。

安全推廣工作

為推廣安全訊息，空管標準組定期為空中導航服務提供單位和維修服務承辦商的職員，舉辦安全文化和安全管理系統的簡報會，以鞏固安全監督和安全管理的概念。

空管標準組與本處轄下的香港民航訓練中心攜手合作，為本地航空機構籌辦了「安全管理系統概論」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，繼續在適當的時機推出。

此外，空管標準組也定期於本處內聯網發布規管資訊和安全管理資料，方便所有空中導航服務人員查閱。

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 99 initial awards of ATC Licences, ATC Ratings and Certificates of Competency, as well as 225 renewals of Ratings and Certificates.

An ATC Licence electronic database has been implemented to enhance the efficiency and effectiveness of the ATC licensing scheme and extended for shared use with ATMD to provide one-stop service for the application, processing and issuing of ATC licences, ratings and certificates.

Approved Training Organisation

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.

Safety Promotion

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 Introduction to SMS Training Course for the local aviation communities. The course would continue to be presented depending on the availability of training slot and general response of the aviation communities.

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

培訓及發展組

培訓及發展組通過培訓及發展委員會，與本處各分部緊密合作，統籌各專業職系人員接受相關民航範疇的培訓，在策劃和推行方面，大收事半功倍之效。在安排以才能為本的培訓之餘，培訓及發展組也致力推廣持續學習的文化，現正構思設計一套更有系統的培訓方案，以期有效落實上述目標。

成立民航訓練學院

行政長官在二零一四年《施政報告》中提到，在經濟發展委員會轄下航運業工作小組支持下，政府將會就成立民航訓練學院進行可行性研究，以期提高本地和海外航空從業員的技術水平。該學院可為航空業培養人才，提升航空運輸安全水平和效率，並進一步鞏固香港作為區內主要航空樞紐的領導地位。本處將委聘顧問公司進行研究，籌備工作已經展開。

TRAINING AND DEVELOPMENT OFFICE (TDO)

In collaboration with divisions through the Training and Development Committee, TDO centrally managed training for officers of different professional grades with the objective of enhancing effectiveness in the planning and provision of training in their respective disciplines in civil aviation. In addition to competency-based training, continuous learning was also promoted and TDO has been developing a more structured programme for effective implementation of these initiatives.

Establishment of a Civil Aviation Training Institute

The Chief Executive announced in the Policy Address 2014 that with the support of the Working Group on Transportation under the Economic Development Commission, the Government would conduct a study on the feasibility of establishing a civil aviation training institute, with a view to enhancing the skills for local and overseas practitioners of the aviation industry, thereby nurturing talents for the aviation industry, enhancing the level of safety and efficiency of air transport, and further strengthening Hong Kong's leading status as a major aviation hub in the region. CAD is in the process of engaging a consultant to conduct the study.

為增進大眾對航空運輸業發展的了解，民航處特別於總部大樓設立航空教育徑推廣相關資訊。
To promote the public's interest and a better understanding of the development of the air transport industry, CAD has constructed the Aviation Education Path as an integral part of the CAD Headquarters building.

民航處於二零一四年一月舉辦簡報會，向業界徵詢在香港設立航空業培訓學院的意見。
In January 2014, CAD organised a briefing on "Consultancy Study of Establishing a Training Institute for the Civil Aviation Sector in Hong Kong" and solicited opinions from the industry.

民航處培訓資料庫

民航處培訓資料庫可讓本處集中管理不同範疇的專業職系人員的培訓需求。用於管理培訓需要和安排培訓課程的模組已投入服務。同事現有的培訓記錄正分階段載入民航處培訓資料庫，餘下模組的程式編製工作也到了最後階段。

航空教育徑

民航處設立航空教育徑，目的是引發青年人投身航空業的興趣。由二零一四年一月起，訪客無須預約便可自由參觀教育徑，大大方便市民大眾學習一般航空知識。自教育徑啟用以來，到訪人次超過一萬，訪客包括一般市民、中小學和大學學生、制服團體成員、本地與海外的航空業界人士，成績令人鼓舞。

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了三項大型資訊科技計劃，以加強資訊科技服務和支援：

（一）按照泛政府的資訊保安政策，年內把本處所有桌面和筆記本電腦的作業系統升級至微軟視窗7，同時又把微軟辦公室套件升級至二零一零年版本。此外，硬碟已經全面加密，以加強保護電腦儲存的數據。

（二）配置使用可抵禦持續滲透攻擊的進階防火牆，以補傳統資料防護技術（如防毒軟件）的不足，並提升部門的資訊安全水平。

（三）開發應用緊急事故資訊通報系統，讓空管人員能夠通過短訊和電子郵件，實時收到緊急事故的重要提示訊息並發放資訊。

CAD Training Database

CAD Training Database allows the training requirements for professional grade officers in various disciplines to be managed centrally. The module for managing the training needs and scheduling of training courses for officers had been put into operation. The uploading of existing training records of officers into this database was carried out in phases. Programming work for the other modules was in the final stage.

Aviation Education Path

Through establishing the Aviation Education Path, CAD hopes to arouse the interest of the youth in joining the aviation industry. From January 2014, the Education Path has been open to walk-in visitors, facilitating the general public to learn about general aviation knowledge. The results were encouraging - since the Education Path's opening, we had received more than 10,000 visitors, including the general public, school and university students, uniform groups, as well as the overseas and local aviation communities.

IT MANAGEMENT

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

(i) To comply with pan-Government IT security policy, all CAD office desktop computers and notebook computers were upgraded to Windows 7, and Microsoft Office to version 2010, in order to enhance data protection with full hard disk encryption.

(ii) Advanced Persistent Threat firewall was configured and implemented to enhance information security and supplement the conventional information security protection technology (e.g. antivirus software).

(iii) Emergency Notification System was developed and implemented to enable real-time dissemination of Short Message Service (SMS) and email messages to air traffic controllers for emergency alert and information sharing.

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，以及監察外地航空公司在香港國際機場的運作。

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, and surveillance of foreign airline operators at Hong Kong International Airport (HKIA).

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

截至二零一四年三月三十一日，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 2014, there were ten Hong Kong AOC holders, namely:

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

年內，本部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131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338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46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

作為多機組飛行員執照課程計劃的先驅，民航處與港龍航空合作無間，逐步有系統地制定相關課程。二零一三年十一月二十九日，多機組飛行員執照首屆課程共有12位學員畢業，成為本港首批獲發此類執照的飛行員，標誌着民航處和港龍航空緊密合作所取得的成果。首批畢業學員現已投身港龍機師之列，而第二和第三批學員也相繼開始受訓。

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 131 flight operations and cabin safety inspections, the Inspectorate staff of the Flight Standards Office had conducted 338 AOC inspections including station inspections, operational records inspections, training inspections and approval of authorised examiners. Forty-six 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

Being a pioneer in the implementation of the Multi-crew Pilot's Licence (MPL) programme, CAD and Dragonair worked closely in formulating this programme step by step through a systematic process. On 29 November 2013, twelve cadet pilots graduated from the first Hong Kong MPL programme, signifying a fruitful outcome through close collaboration between CAD and Dragonair. The graduates are the first batch of pilots being issued with such licences in Hong Kong. Graduates of the first batch of MPL programme have been already flying with Dragonair while the second and third batches of cadets have also started their training.

二零一三年十一月二十九日，多機組飛行員執照首屆課程共有12位學員畢業，成為本港首批獲發此類執照的飛行員。
On 29 November 2013, 12 cadet pilots graduated from the first Hong Kong MPL programme. The graduates are the first batch of pilots being issued with such licences in Hong Kong.

年內，獲發航空經營許可證的本地公司共有十家。
There were ten Hong Kong AOC holders during the year.

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22架航空器，其中來自香港航空經營許可證持證公司的詳情如下：

Delivery of Aircraft

As the Hong Kong aviation industry continued to grow, local airlines expanded their fleets and 22 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	四架空中巴士A330型、五架波音B747型貨機和七架波音B777型 Four Airbus 330, five Boeing 747 freighters and seven Boeing 777
香港航空 CRK	一架空中巴士A330型貨機和一架空中巴士A320型 One Airbus 330 freighter and one Airbus 320
港龍航空 HDA	一架空中巴士A330型和一架空中巴士A321型 One Airbus 330 and one Airbus 321
直升機服務 HLS	一架MD900型直升機 One MD900 helicopter

適航主任檢查飛機維修情況。
An Airworthiness Officer examining the maintenance status of an aircraft.
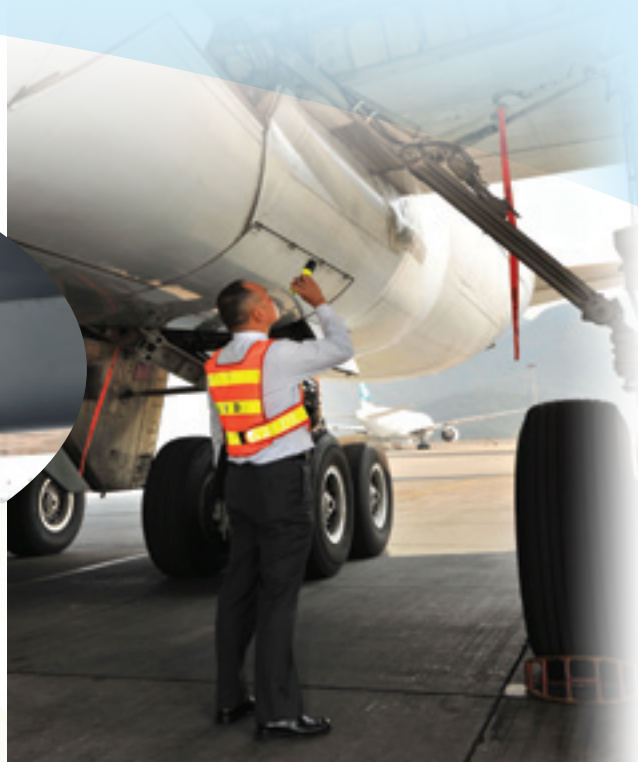
適航事務組

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。截至二零一四年三月三十一日，共有30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。

飛機維修訓練

截至二零一四年三月三十一日，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。

AIRWORTHINESS OFFICE

The Airworthiness Office monitors the maintenance and airworthiness standards of all Hong Kong registered aircraft. With a team of experienced Airworthiness Officers, the office carries out regular AOC line station audits, approved maintenance and design/production organisation audits, and aircraft surveys locally in Hong Kong as well as 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 2014, there were 30 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.

Aircraft Maintenance Training

As of 31 March 2014, 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.

飛行標準及適航 Flight Standards and Airworthiness

飛機和相關產品／零件的設計與生產

截至二零一四年三月三十一日，共有13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 2014, 13 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
（二零一三年四月一日至二零一四年三月三十一日）

Airworthiness Office Statistics
(between 1 April 2013 and 31 March 2014)

簽發適航證 **Certificate of Airworthiness Issued** **22**	續發適航證 **Certificate of Airworthiness Renewed** **263**	註銷適航證 **Certificate of Airworthiness withdrew** **20**	審定重大改裝 **Major Modification Approved** **14**

認可飛機維修機構 **Approved Aircraft Maintenance Organisations** **30**	認可飛機維修訓練機構 **Approved Aircraft Maintenance Training Organisations** **5**	認可設計和生產機構 **Approved Design and Production Organisations** **13**

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

航空人員執照事務組

空勤人員執照

二零一三至一四年度，航空人員執照事務組共處理2 823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3 501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4 483份體檢合格證明書。

飛機維修執照

截至二零一四年三月三十一日，執照事務組共處理1 583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3 239份試卷的考試。

飛行安全組

飛行安全組繼續對香港的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852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。

PERSONNEL LICENSING OFFICE

Flight Crew Licensing

During 2013-14, the Personnel Licensing Office (PELO) processed 2 823 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 3 501 CAD flight crew licensing written examinations. In addition, 4 483 medical certificates were issued to holders/applicants of Hong Kong flight crew licence or air traffic controller's licence.

Aircraft Maintenance Licensing

As of 31 March 2014, PELO processed 1 583 applications for initial licence issue, renewal or inclusion of aircraft type rating endorsements in aircraft maintenance licences. During the report period, 3 239 examinations were conducted at PELO and the authorised examination centre at HAECO in Tseung Kwan O.

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 852 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.

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。

飛機登記

年內，香港民用航空器登記冊共新增22架航空器，同期另有八架波音B747型、兩架波音B737型、七架空中巴士A330型、一架挑戰者600型、一架灣流G200型和一架R44型直升機取消登記。截至二零一四年三月三十一日，香港民用航空器登記冊上共有291架民用航空器，當中247架由香港的航空經營許可證持證公司和政府飛行服務隊擁有，詳情如下：

COORDINATION WITH LOCAL AIRSPACE USERS

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

AIRCRAFT REGISTER

During the year, 22 aircraft were put on the Hong Kong Civil Aircraft Register. In the same period, eight Boeing 747, two Boeing 737, seven Airbus 330, one Challenger 600, one Gulfstream G200 and one R44 helicopter were removed from the Register. As of 31 March 2014, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 291, of which 247 were registered under Hong Kong AOC holders and the GFS as follows:

航空器型號 Aircraft Type

Aircraft Type	Number
空中巴士A300型 Airbus A300	8
空中巴士A320型 Airbus A320	26
空中巴士A321型 Airbus A321	7
空中巴士A330型 Airbus A330	71
空中巴士A340型 Airbus A340	11
BAE 4100型 BAE 4100	2
波音B737型 Boeing B737	1
波音B747型 Boeing B747	38
波音B777型 Boeing B777	55
龐巴迪BD700型 Bombardier BD700	4
龐巴迪CL605型 Bombardier CL605	2
灣流G450型 Gulfstream G450	2
灣流GV型 Gulfstream GV	1
灣流G550型 Gulfstream G550	1
680 Citation Sovereign型 680 Citation Sovereign	1
Moravan Z 242 L型 Moravan Z 242 L	1
DA 42 NG型 DA 42 NG	1
直升機 Helicopters	15

數目 Number
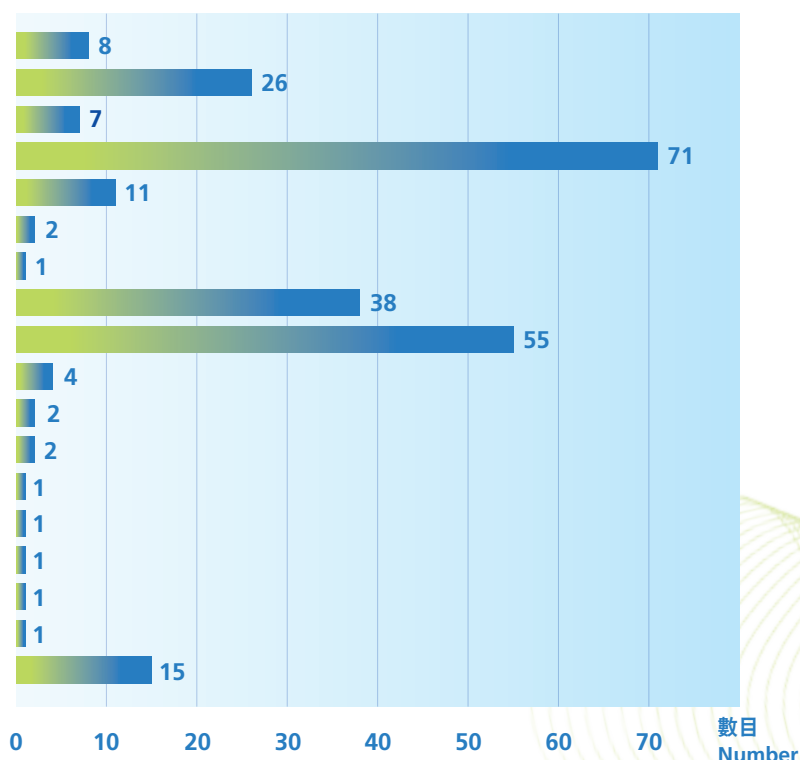
持續訓練巡查人員

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、各式運作的審批、審查技巧，以至安全管理訓練。此外，他們也參與國際和地區會議、研討會和工作組會議，與國際專家交流，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督審計計劃持續監察模式、全球衞星導航系統、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與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。

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, operational approvals, 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.

年內，航空人員執照事務組共處理2 823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。
During the year, PELO processed 2 823 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.

航空人員執照事務組的考試室。
An examination room in PELO.

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。本部也負責促進直升機場的發展，監察直升機場的運作安全和保安水平，制定和執行飛機噪音消減措施，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 facilitates the development of heliports, monitors the safety and security of heliport operations, develops and implements noise mitigating measures 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127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，以及飛行區擴建項目。本部也參與機管局對機場特許經營公司進行的審計，並監察機管局對飛機地面事故的調查工作，以確保機管局有效地監督各機場特許經營公司的安全表現，以及確定相關各方已採取適當改善措施，防止同類事故重演。

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 127 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 monitored AAHK's investigation of aircraft ground incidents to ensure that effective oversight is exercised by AAHK on franchisees' safety performance and appropriate remedial measures had been taken by relevant parties to prevent recurrence.

為防止航機受鳥擊影響，機管局購置遠距離揚聲裝置驅趕雀鳥。
A long range acoustic device for bird deterrence procured by AAHK to prevent bird strike.

機管局按照國際民航組織的要求，在新停機坪上設置停機位標誌。
Aircraft stand marking in compliance with ICAO requirement provided by AAHK on the new parking apron.

年內，機管局推行和延續了數項飛行區大型維修計劃，其中包括於二零一二年九月展開的主要滑行道刨鋪工程，整項工程預計在二零一四年五月完成。此外，機管局於二零一三年第二季開始更換北跑道航空地面燈的110件主要電子配件，工程預計於二零一四年年底完成。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。

機管局於年內也展開多項改善工程，以應付新需求和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機場處理空中巴士A380型飛機的能力。機管局為一個廊前客運停機位進行改建工程，更換現有兩條登機橋的其中一條，以連接A380型飛機的上層客艙。此外，還展開了兩項滑行道及滑行徑改善工程，方便A380型飛機在南面客運停機坪運作。各項新設施定於二零一四年五月啟用。本部曾數度聯同機管局實地巡查，審核各項設施的性能水平是否合乎要求。本部會繼續監察機場的各項改善工程，確保新設施完全符合機場發牌規定。

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 May 2014. AAHK also started to replace 110 major electronic devices for the aerodrome ground lighting serving the North Runway. The works commenced in the second quarter of 2013 and would be completed by the end of 2014. 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 works.

A number of enhancement projects were also launched by AAHK during the year to meet new demand and to further enhance 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 replace one of the two existing airbridges for connection to the upper deck of A380 aircraft. Two additional enhancement works on taxiways and taxilanes were also carried out to facilitate A380 aircraft operations in the South Passenger Apron. The division had conducted several joint inspections with AAHK to assess the conformity of the new facilities which were scheduled for operation in May 2014. The division will continue to monitor various upgrading works in HKIA to ensure that these new facilities will fully comply with the licensing requirements.

興建中的中場客運廊。
The Midfield Passenger Concourse under construction.

為應付航班增長，機管局於機場中場範圍和西面停機坪展開了大型發展計劃。該發展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或之前竣工。年內已完成或啟用的部分包括：

（一）滑行道H及J與滑行徑T南端的連接工程；

（二）滑行道N的改道工程；以及

（三）西面停機坪的七個遠方停機位和12個臨時停機位。

本部在這些新設施啟用前實地巡查，審核是否符合機場發牌規定，以及是否已經制定相關運作程序。另一方面，多個相關項目已陸續展開，計有機場中場新客運廊的建築工程、登機橋安裝工程、停機坪道面及設施興建工程、旅客捷運系統（即無人駕駛列車）延展工程，以及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。本部會繼續密切監察整項計劃的進度，務使機場在提升處理客貨運能力之餘，也可維持飛行區的運作高度安全。

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（包括中場範圍第二期及餘下用地的發展）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。

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 parking stands, 16 remote parking stands and 12 temporary parking 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 tie-ins between Taxiways H and J and the southern section of Taxilane T;

(ii) the re-alignment of Taxiway N; and

(iii) the construction of seven remote parking stands and 12 temporary parking stands in the western apron.

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 construction of Midfield Passenger Concourse; the installation of airbridges; the construction of apron pavement and facilities; the extension of Automated People Mover; and the construction of the entrance of Western Airfield Tunnel for linking the Cargo Apron and Western Apron. The division will continue to closely monitor the progress of the whole project to facilitate the enhancement in the airport handling capability while maintaining a high level of airfield operational safety.

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 (including the development of the Midfield Phase Two and the Midfield remaining area) and HKIA Master Plan 2030 study. The division also provided inputs to new operating procedures and new equipment introduced by AAHK in order to enhance airport safety and operations.

因應國際民航組織就成立跑道安全小組的最新指引，機管局聯同機場同業，擴大了現有的「飛行區營運及安全特別工作組」的工作範圍，以便該工作組履行跑道安全小組的職能。民航處多個分部都委派了代表加入跑道安全小組，協力提升跑道安全。

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，其中一次是於二零一三年十一月二十七日舉行的年度大型飛機意外救援演習。是次演習模擬抵港客機於機場降落時碰撞着陸，導致左邊的主起落架損毀和一號引擎起火。左邊機身因撞擊而破裂，令載有醫療用放射性物質的空運貨物損毀。不同應變單位，包括機管局、政府相關部門和航空公司均參與演習，以測試各單位處理涉及洩漏放射性物質的飛機事故的緊急程序是否奏效，特別是消除放射性物質污染的程序，以及拯救已受或懷疑受放射性物質污染的乘客和機組人員的救援安排。從籌備至完成演習，本部一直監察各階段的進展，並提出意見和建議，讓機管局和相關應變單位進一步改善緊急程序和提高應變能力。

《國際民用航空公約》（《國際民航公約》）新增的附件19所載的安全管理國際標準和建議措施，於二零一三年十一月生效。機場的運作環境瞬息萬變，加上機場不時採用新設備和運作程序，本部促請機管局相應加強安全評估的工作。此外，本部也提醒機管局評估飛行區擴建工程對飛行區運作安全的影響。對於航空安全，機管局也需要提高機場同業的整體認識和警覺，並加強該局各部門的內部溝通。

With reference to the latest guidelines issued by International Civil Aviation Organization (ICAO) on the establishment of Runway Safety Team (RST), AAHK in conjunction with the relevant parties in the airport community enhanced the role of the existing Airfield Operations and Safety Working Group so as to deliver the functions of the RST. Representatives from different divisions of CAD also participated as RST members so that collaborative efforts can be made to further improve runway safety.

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 27 November 2013. The exercise simulated an arrival flight experiencing hard landing, with its portside main landing gear collapsed and No. 1 engine catching fire. A crack on the portside fuselage was resulted, damaging the cargo hold which housed medical-use radioactive material. Different responding parties, including AAHK, relevant government departments and the participating airline, took part in the exercise to test the emergency procedures and responses in dealing with an aircraft accident involving radioactive material leakage, in particular the radioactive decontamination process and rescue arrangement of persons on board who are radioactively contaminated or suspected to be radioactively contaminated. 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.

The new Annex 19 to the Convention on International Civil Aviation containing the international standards and recommended practices of Safety Management became effective in November 2013. AAHK was urged to enhance the safety assessment associated with the airport's changing operational environment and introduction of new equipment and operational procedures; review the impact on airfield operational safety arising from the airfield expansion projects at the airport; and improve the overall awareness on aviation safety among the whole airport community and internal communication within AAHK.

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。

年內，發展局展開「飛躍啟德」城市規劃及設計概念國際比賽。「飛躍啟德」的範圍包括擬預留用作跨境直升機場的啟德發展區跑道末端。本部聯同相關政府部門組成技術評估委員會，評估參賽作品是否達到比賽文件所訂的技術要求。

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.

During the year, the Development Bureau launched the Kai Tak Fantasy (KTF) International Ideas Competition on Urban Planning and Design. KTF comprises, inter alia, the Kai Tak Runway Tip in the Kai Tak Development, which is intended to be reserved for the development of a cross-boundary heliport. The division in collaboration with the relevant government departments formed a Technical Committee to assess whether the entries fulfilled the technical requirements set out in the competition document.

香港接線工程開展前，機場安全標準部人員審查承建商的應急預案示範，以確保香港接線在跑道封閉期間所進行的工程不會對跑道重開造成影響。
APSD officers inspecting the demonstration of the emergency and contingency plans by the contractor of the Hong Kong Link Road prior to the commencement of the works in order to ensure that the works to be conducted during the runway closure period will not affect the re-opening of the runway.

本部審核了多項建築和發展計劃及可行性研究，並提供意見，確保各個項目均符合機場高度限制和其他航空安全規定。年內，經本部審核的大型項目和研究，在機場範圍以外的有港珠澳大橋工程的香港口岸和香港接線、屯門至赤鱲角連接路、東涌餘下的發展計劃、維多利亞港以外填海和發展岩洞計劃、欣澳填海的規劃及工程研究，以及中部水域人工島策略性研究。在機場範圍內的大型項目，則包括機場中場範圍發展計劃、西面停機坪發展計劃，以及擴建機場成為三跑道系統的工程項目。在機管局籌劃擴建機場成為三跑道系統的工程項目方面，本部就擴建機場後的機場高度限制和相關的海上限制區，積極提供意見，以確保新航道安全。

港珠澳大橋香港口岸的填海工程於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，以便在該島上興建相關的基礎設施。由於這項重要工程的填海位置靠近機場，並在兩條跑道的航道之下，為了確保飛機的安全和避免機場運作受到建築工程干擾，本部主動要求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臨時批准高身船隻豁免遵守機場高度限制的申請，尤其重要。本部也密切監察承建商在遵守機場高度限制方面的表現，並視乎需要要求承建商採取改善措施。

此外，港珠澳大橋香港接線的兩項工程，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，全面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上文所述的船舶高度監測系統。

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 the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) and the Hong Kong Link Road (HKLR), the Tuen Mun-Chek Lap Kok Link, the Remaining Development in Tung Chung, the Reclamation outside Victoria Harbour and Rock Cavern Development, the Planning and Engineering Study on Sunny Bay Reclamation and the Strategic Studies for Artificial Islands in the Central Waters. The major projects within HKIA assessed included HKIA's Midfield development project, the Western Apron development project and the Expansion of HKIA into a three-runway system project. Regarding the Expansion of HKIA into a three-runway system project planned by AAHK, the division provided advice on AHR requirements and the associated Marine Exclusion Zones (MEZs) for an expanded airport system in order to ensure aviation safety of the new flight paths.

As the reclamation works at the waters off the northeast of HKIA for the HKBCF proceeded, 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 airdraft vessels. The performance of the contractor in complying with the AHR requirements was also closely monitored by staff of the division who would require remedial actions from the contractor as and when necessary.

Regarding the two HKLR projects associated with the Hong Kong-Zhuhai-Macao Bridge, the majority of their works area was around the waters 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 requirements. A similar vessel height monitoring system was also commissioned in one of these projects.

年內，本部共批准130宗臨時豁免遵守機場高度限制的申請，以方便在香港境內進行某些建築工程，以及方便在機場島附近的海事運作，當中100宗涉及港珠澳大橋香港口岸和香港接線的工程。

本部得到海事處通力協助，繼續盡力防止船隻駛進機場島附近的海上限制區，以免航機和無線電導航儀器運作受到干擾。年內，海事處針對非法闖入限制區的事件，共提出九次檢控。

禁止使用會危害飛機航行的燈光

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

一般飛行活動

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

This year, the division issued 130 temporary AHR exemptions to facilitate construction works in the territory and vessel operations in the vicinity of the Airport Island of which 100 were issued to facilitate the works of the Hong Kong-Zhuhai-Macao Bridge HKBCF and HKLR projects.

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

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 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.

運載危險品

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了三宗新的危險品許可證申請及34宗許可證續期申請。截至二零一四年三月底，共有84家航空公司獲准運載危險品進出或飛越香港。此外，危險品事務組批准了33家機構為航空公司、空運貨站、貨運代理人和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、貨運代理人和付運人，監察他們有否遵從關於危險品的安全規定。

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。年內，危險品事務組重新設計了設於機場客運大樓的四個危險物品展示亭，更新了展示的危險物品資訊，並印製新設計的《飛機乘客行李須知》單張，以加深飛機乘客對攜帶危險品乘坐飛機的認識。

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《危險物品安全航空運輸技術細則》的規定一致，相關的修例工作於年內繼續進行。

CARRIAGE OF DANGEROUS GOODS

The Dangerous Goods Office of APSD regulates the transport of dangerous goods by air in accordance with 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, three new and 34 renewal applications for dangerous goods permissions were processed. At the end of March 2014, 84 airlines were permitted to carry dangerous goods onboard their aircraft flying to, from or over Hong Kong. In addition, the Office approved 33 organisations for conducting dangerous goods training programmes for airlines, air cargo terminals, freight forwarders and 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.

Promulgation of Safety Requirements

The Dangerous Goods Office continued to promulgate the safety requirements on air transport of dangerous goods through education and publicity. During the year, the Dangerous Goods Office re-designed the four dangerous goods display booths at the passenger terminals of HKIA, updated the dangerous goods information displayed and published an information sheet "Packing Tips for Air Passengers" to enhance air travellers' awareness of the carriage of dangerous goods by air .

Legislation

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

有關攜帶危險品的飛機乘客行李須知單張和重新設計的危險品展示亭。
Leaflet on Packing Tips for Air Passenger in respect of the carriage of dangerous goods and the newly designed dangerous goods display booth.

為掌握空運危險品的最新國際要求，危險品事務組參加了國際民航組織於二零一三年四月舉行的危險品專家組工作小組會議，以及同年十月舉行的危險品專家組會議。

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，並向香港空運業界和外國航空當局發布具有參考價值的調查結果。

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，本部繼續使用以電腦操作的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飛機噪音水平。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。電腦會把雷達提供的飛行資料，與噪音監察站記錄的飛機噪音數據連繫起來。

年內，本部共處理了231宗飛機噪音投訴。為加強社區對各項噪音消減措施的了解，本部多次派員出席由立法會、區議會和地區居民團體所舉辦的會議。

為進一步減低飛機噪音對社區的影響，民航處由二零一四年三月三十日起，不再容許航空公司編排僅僅符合《國際民航公約》附件16第一卷第二部分第三章所載的噪音標準的飛機，於晚上十一時至早上七時在香港升降。

Participation in International Activities

To keep abreast of the development of international requirements on air transport of dangerous goods, the Dangerous Goods Office attended the ICAO Dangerous Goods Panel Working Group Meeting and the ICAO Dangerous Goods Panel Meeting in April 2013 and October 2013 respectively.

Dangerous Goods Incidents

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

AIRCRAFT NOISE MANAGEMENT

CAD is conscious of the impact of aircraft noise on the community and has implemented a series of noise mitigating measures in accordance with the guidelines of ICAO. During the year, the division monitored the implementation of the noise mitigating measures and aircraft noise situation in various districts using 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 data provided by radars and the noise recorded by the noise monitoring terminals.

During the year, the division handled 231 aircraft noise complaints. For the purpose of enhancing the understanding of the noise mitigating measures, representatives of the division attended various meetings organised by the Legislative Council, District Councils and local residential organisations.

To further alleviate the impact of aircraft noise on the local communities, commencing 30 March 2014, CAD ceased to allow aircraft operators to schedule flights which will be flown by aircraft whose noise levels marginally meet the noise standards stipulated in Volume I, Part II, Chapter 3 of Annex 16 to the Convention on International Civil Aviation for operation in Hong Kong between 11 pm and 7 am.

用作進行短期飛機噪音量度的流動噪音監察儀器。
Ad-hoc aircraft noise measurements using portable monitoring equipment.

航空保安

對機場各個營運者的保安監察

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

年內,本部根據《航空保安條例》處理了三宗指定禁區的個案,其中一宗是把新落成的國泰航空貨運站內某些範圍指定為租戶禁區,另外兩宗則涉及重新劃定機場員工驗查通道。在執行這些改動前,本部人員到了現場實地巡查,確保有足夠的保安措施,適切管制進入禁區的人士。

空運貨物保安

根據管制代理人制度,每一名向民航處登記成為管制代理人的貨運代理,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。本部繼續監察已登記的管制代理人,確保他們遵守管制代理人制度的規定。

為遵行由國際民航組織頒布於二零一三年七月十五日起生效的新保安標準,民航處擴大了管制代理人制度的適用範圍。在諮詢空運業界代表團體之後,本處制定了新的空運貨物保安規定文件,把管制代理人制度的適用範圍擴展至以全貨運航機運載的貨物,以符合國際民航組織的新規定。

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,定期舉行會議,研究措施以持續加強空運貨物的保安。

截至二零一四年三月三十一日,本處的登記冊上共有1 396名管制代理人。

AVIATION SECURITY

Security Oversight of Operators at HKIA

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

During the report period, the division processed three designations of restricted areas under the Aviation Security Ordinance. One of the designations was to demarcate certain areas within the new Cathay Pacific Cargo Terminal as tenant restricted areas. The other two designations were made for the reconfigurations of the Staff Screening Channels at HKIA. 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.

Air Cargo Security

Under the Regulated Agent Regime (RAR), a cargo agent registered as a Regulated Agent (RA) with CAD is required to provide security control measures on consignments of air cargo and apply screening on prescribed sources of air cargo. APSD continued to monitor the compliance of the RAs with the requirements of the RAR.

The application of the RAR was enhanced to comply with ICAO's new standards which became effective from 15 July 2013. After consulting the air cargo industry representative bodies, CAD developed new air cargo security requirement documents and extended the application of the RAR to cargo carried onboard all-cargo aircraft to ensure adherence to the new ICAO requirements.

With a view to continually enhancing the RAR, the division set up a working group which comprises representatives of the air cargo industry. The working group meets regularly to identify measures for continually enhancing the aviation security of the supply chain.

As at 31 March 2014, there were 1 396 RAs registered with CAD.

機場安全標準 Airport Standards

難受管束人士的行為

為針對民航機上難受管束和擾亂秩序人士的行為，香港制定了《航空保安（修訂）條例》，對這類罪行施加制裁。年內，根據該條例檢控成功的個案共有六宗。

簡化手續

機場安全標準部藉參與機場簡化手續委員會，監察《國際民航公約》附件9所訂的標準和建議措施在機場實施的情況。年內，本部向香港登記航空公司的機組人員發出了1 902張新空勤人員證書。

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 six cases of successful prosecution under the Ordinance.

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, 1 902 new Crew Member Certificates were issued to the crew members of Hong Kong registered aircraft operators.

機場安全標準部人員巡查機場租戶禁區。
APSD officers inspecting the Tenant Restricted Area at HKIA.

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。

二零一三年九月十一日至十三日，民航處聯同亞太地區互助航空保安計劃在香港主辦了「教員資格認證計劃工作坊」。來自七個締約國或特別行政區的約20名航空保安專家，共同擬定了國家航空保安教員資格認證制度的指引文件。

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.

In partnership with CASP-AP, CAD hosted the Instructor Certification Development Workshop in Hong Kong from 11 to 13 September 2013. Some 20 aviation security experts from seven contracting states or special administrative region participated in the Workshop to develop guidance materials for a national aviation security instructor certification system.

國際民航組織航空保安專家組會議

機場安全標準部於二零一四年三月派員以中國代表團成員身分，參與在加拿大蒙特利爾舉行的國際民航組織航空保安專家組會議。該會議的目標是制定國際標準和建議措施，以保護民用航空免受非法干擾行為侵襲，以及識別和研究民用航空所面對的新威脅。

ICAO Aviation Security Panel (AVSECP) Meeting

APSD participated, as members of the Chinese delegation, in the ICAO AVSECP Meeting held in Montreal, Canada in March 2014. The objectives of the AVSECP are to develop standards and recommended practices for the purpose of safeguarding civil aviation against acts of unlawful interference, and identify and examine new and emerging threats against civil aviation.

機場安全標準部舉辦國際民航組織亞洲太平洋區互助航空保安計劃教員資格認證計劃工作坊。
APSD organised the ICAO Cooperative Aviation Security Programme - Asia Pacific (CASP-AP) Instructor Certification Development Workshop.

澳門氹仔碼頭的香港國際機場預辦登機服務設施，是機場安全標準部的巡查範圍之一。
The HKIA up-stream check-in facilities at the Macao Taipa Ferry Pier is one of APSD's inspection areas.

國際民航組織國際航空法會議

為更有效應付在飛機上的難受管束行為，國際民航組織決定草擬補充議定書，以修訂在一九六三年訂立的《東京公約》，使之與時並進。本部聯同航班事務部和律政司的同事，以中國代表團成員身分，參加國際民航組織於二零一四年三月二十六日至四月四日在加拿大蒙特利爾舉行的國際航空法會議，審議議定書的草案條文。

ICAO International Conference on Air Law

To modernise the Tokyo Convention of 1963 for the purpose of dealing more effectively with unruly behaviours committed on board aircraft, it was considered by ICAO that an amendment to the Convention should be made through a supplementary protocol. Colleagues from APSD and ASD together with the Department of Justice participated, as members of the Chinese delegation, in the International Conference on Air Law convened by ICAO in Montreal from 26 March to 4 April 2014 to consider the draft text of the protocol.

航班事務
Air Services

航班事務部負責監察航空公司的空運服務，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，以及處理有關民航的立法事宜。該部也負責制定和實施航空安全管理政策，以促進航空系統安全並提升安全水平。此外，航班事務部又為飛機意外及嚴重事故的調查工作提供行政支援，以及編訂航空交通統計數字。

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, and handling civil aviation legislative matters; it is also responsible for developing and implementing safety policy to promote and enhance safety in the aviation system, providing administrative support to the investigations of aircraft accidents and serious incidents and producing air traffic statistics.

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，以供該局在進行民用航空運輸談判時參考。該組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。

技術行政組則負責制定和實施航空安全管理政策，以促進航空系統安全和提升安全水平，並統籌在香港實施國際民航組織全球安全監督審計劃持續監察方法的各項措施及香港安全計劃，確保香港遵從《國際民用航空公約》（《國際民航公約》）附件19的規定。該組也負責為飛機意外及嚴重事故的調查工作提供行政支援，以及編訂航空交通統計數字。

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 (ATLA) 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 the development and implementation of safety policy to promote and enhance safety in the aviation system, and coordinating the implementation of ICAO Universal Safety Oversight Audit Programme Continuous Monitoring Approach in Hong Kong and Hong Kong Safety Programme to ensure compliance with the ICAO Annex 19 provisions. It also provides administrative support to the investigations of aircraft accidents and serious incidents, and provides air traffic statistics.

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 Section reviews and proposes changes to civil aviation legislation and liaises with international organisations on aviation issues and activities.

航空服務

航空交通量增長

二零一三至一四年度的客運量比上一年度上升6.5%至6 008萬人次，飛機升降量增加6.3%至377 452架次。貨運量則按年增加3.4%至418萬公噸。

截至二零一四年三月底，提供往返香港的定期航班服務的航空公司總數為103家，服務網絡涵蓋的城市／機場約有180個。

本地航空公司的服務

截至二零一四年三月底，國泰航空公司（國泰）營辦的香港定期航班服務遍及全球71個目的地，當中包括以下的新航點：馬累和紐約（紐瓦克）的定期客運航班，以及哥倫布、迪拜（阿勒馬克圖姆國際機場）、瓜達拉哈拉和墨西哥城的定期貨運航班。

截至二零一四年三月底，港龍航空公司（港龍航空）營辦的定期客運航班服務遍及41個目的地，包括新增的航點暹粒。

香港華民航空公司（華民航空）繼續經營亞洲區定期貨運航班服務。截至二零一四年三月底，華民航空營辦往返亞洲12個目的地的定期航班服務。

截至二零一四年三月底，香港航空公司（香港航空）營辦往返30個目的地的定期航班服務，包括客運服務新航點徐州，以及貨運服務新航點達卡、吉隆坡、首爾。

AIR SERVICES

Air Traffic Growth

Traffic throughput in the year 2013-14 reached 60.08 million passengers with a growth rate of 6.5%. Aircraft movements also reached 377 452 movements, with a growth rate of 6.3%. Cargo throughput increased to 4.18 million tonnes, representing a year-on-year growth of 3.4%.

By the end of March 2014, the number of scheduled airlines serving Hong Kong was 103. The total number of cities/airports served by scheduled services to and from Hong Kong was around 180.

Services by Local Carriers

By the end of March 2014, Cathay Pacific Airways (CPA) operated scheduled services to 71 destinations worldwide, including the following new destinations: Male and New York (Newark) for scheduled passenger services; and Columbus, Dubai (Al Maktoum International Airport), Guadalajara and Mexico City for scheduled all-cargo services.

Hong Kong Dragon Airlines Limited (HDA) operated scheduled passenger services to 41 destinations by the end of March 2014, including a new destination, Siem Reap.

AHK Air Hong Kong Limited (AHK) continued to operate scheduled all-cargo services in Asia. By the end of March 2014, AHK operated scheduled services to 12 destinations in Asia.

Hong Kong Airlines Limited (CRK) operated scheduled services to 30 destinations by the end of March 2014, including new destinations to Xuzhou for passenger services; and Dhaka, Kuala Lumpur and Seoul for all-cargo services.

香港快運航空公司（香港快運）由二零一三年十月二十七日起轉型為低成本航空公司，以單一客艙級別的方式營運往返清邁、亞庇、昆明、布吉的定期客運服務。截至二零一四年三月底，香港快運的定期航班服務涵蓋八個目的地，新增的航點包括東京（羽田）、檳城、大阪、首爾。

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。

Hong Kong Express Airways Limited (HKE) relaunched itself as a low cost carrier on 27 October 2013 and started operating scheduled passenger services to Chiang Mai, Kota Kinabalu, Kunming and Phuket in a single class configuration. By the end of March 2014, HKE operated scheduled services to eight destinations, adding Tokyo (Haneda), Penang, Osaka and Seoul to its network.

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 (HEL) continued to operate local passenger charters and aerial work.

年內，民航處合共簽發141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 141 operating permits to airlines for the operation of scheduled services to and from Hong Kong.

截至二零一四年三月底，共103家航空公司營運定期往來香港的航班，服務約180個城市／機場。
By the end of March 2014, 103 scheduled airlines operate flights to and from Hong Kong, serving around 180 cities/airports.

Services by Non-Hong Kong Carriers

年內，共有七家航空公司首次或重新開辦往返香港的定期客運服務，包括：孟加拉航空於二零一三年五月重辦往返達卡的航班，都市航空於二零一三年五月開辦往返曼谷的航班，俄羅斯全祿航空於二零一三年六月開辦往返莫斯科的航班，曼達拉航空於二零一三年七月開辦往返雅加達的航班，酷航於二零一三年十一月開辦往返新加坡的航班，以及易斯達航空於二零一三年十二月開辦往返首爾的航班。Aurora Airlines於二零一三年十二月開辦往返海參崴的航班，但其後於二零一四年三月停辦。

Seven foreign operators commenced new or resumed scheduled passenger services during the year. Biman Bangladesh Airlines resumed services from Dhaka and City Airways commenced services from Bangkok in May 2013. Transaero Airlines launched services from Moscow in June 2013. Mandala Airlines commenced services from Jakarta in July 2013. Scoot started services from Singapore in November 2013. Eastarjet and Aurora Airlines launched services from Seoul and Vladivostok respectively in December 2013. However, Aurora Airlines suspended its services in March 2014.

年內，有七家航空公司停辦往返香港的定期航班服務，計有：ACG Air Cargo Germany（二零一三年四月），通里薩航空（二零一三年四月），K-Mile Air（二零一三年八月），海參崴航空（二零一三年九月），巴基斯坦國際航空（二零一三年十一月），菲律賓亞洲航空（二零一四年一月），以及菲鷹航空（二零一四年一月）。

During the year, seven airlines suspended their scheduled services to and from Hong Kong. They were ACG Air Cargo Germany and TonleSap Airlines in April 2013, K-Mile Air in August 2013, Vladivostok Air in September 2013, Pakistan International Airlines in November 2013, and Philippines Airasia, Inc. and Airphil Express in January 2014.

年內，民航處合共簽發141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873張經營往來香港包機服務的許可證。

During the year, CAD issued 141 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 873 permits were also issued for the operation of charter services to and from Hong Kong.

航班事務 Air Services

運價

年內，民航處共處理1 411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）。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1 319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。

TARIFFS

During the year, CAD processed 1 411 tariff filings (excluding filings concerning fuel surcharges) for carriage of passengers and cargo on scheduled services to and from Hong Kong. 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 1 319 filings on the adjustment of fuel surcharges. The approved fuel surcharges were published on 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，出席五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30次會議的詳情見附錄。此外，本處與國際民航組織往來的函件共有291份，主要就民航技術事宜提供意見及資料。

ACTIVITIES OF ICAO

To maintain the status of Hong Kong as a centre of international and regional civil aviation in accordance with the provisions of the Basic Law, and to facilitate the discharge of Hong Kong's responsibilities under the regional air navigation procedures of ICAO, CAD continued to participate actively in ICAO's activities. During the year, representatives of the department attended five 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 30 meetings are provided in the Appendix. The department also exchanged 291 letters with ICAO, the majority of which involved comments and information on technical matters related to civil aviation.

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20項要求,提供民航技術事宜的意見及資料。

ACTIVITIES OF APEC

CAD continued to support aviation related activities and initiatives of APEC using the name "Hong Kong, China". During the year, the department handled 20 requests relating to APEC, which involved provision of comments and information on technical matters related to civil aviation.

空運牌照

經修訂的《空運(航空服務牌照)規例》(第448章附屬法例A)於二零一三年四月二十二日開始實施,當中主要修改之處包括把發牌模式由航線主導改為航空公司主導,並賦予空運牌照局權力,讓該局有權要求牌照持有人提供相關資料以評估其財務狀況。年內,空運牌照局共發出九個新牌照,計為一個發給香港快運航空、三個發給香港航空、兩個發給國泰航空、一個發給港龍航空,以及兩個發給香港華民航空。

AIR TRANSPORT LICENSING

The amended Air Transport (Licensing of Air Services) Regulations (Chapter 448, sub-legislation A) came into operation on 22 April 2013. Major changes include the granting of airline-based licences instead of route-based licences, and the empowering of ATLA to require licence holders to provide relevant information for assessing their financial position. During the year, ATLA granted nine new licences: one to Hong Kong Express Airways (HKE), three to Hong Kong Airlines (CRK), two to Cathay Pacific Airways (CPA), one to Hong Kong Dragon Airlines (HDA) and two to AHK Air Hong Kong (AHK).

嶄新的安全管理模式

由二零一三年起，國際民航組織推行全球安全監督審計計劃持續監察方法，並在整合和修訂《國際民航公約》各個附件之中有關安全管理的條文後，於同年十一月實施新的《附件19 — 安全管理》。新措施要求各締約國和民航當局更積極參與持續監察方法的籌備工作，並藉安全方案，以風險管理原則更主動落實安全管理，從而進一步提升安全管理的成效，並持之以恆，精益求精。

成立安全策略辦公室

因應國際民航組織的新措施，民航處通過整合內部資源，於二零一三年五月一日成立新的組別，名為安全策略辦公室，負責落實安全管理新措施。安全策略辦公室統籌和協調本處推展安全方案和持續監察方法的工作，並與意外調查辦公室合作，促進安全管理和預防飛機意外及嚴重事故發生。

NEW INITIATIVES ON SAFETY MANAGEMENT

Since 2013, ICAO has implemented the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) and launched the new Annex 19 - Safety Management in November 2013 after consolidation and refinement of the safety management related provisions in various Annexes. These latest initiatives of ICAO require all states and administrations to participate more actively in CMA preparation and proactively manage safety through the State Safety Programme (SSP) using a risk-based approach, in order to further enhance the effectiveness and continuity of safety management.

Establishment of a new Strategic Safety Office

In response to ICAO's new initiatives, CAD has reorganised its existing resources and established a new office, named the Strategic Safety Office, on 1 May 2013 to take on the new safety management responsibilities. The Strategic Safety Office plans and coordinates the SSP and CMA activities for the department, and collaborates with the Accident Investigation Office on the promotion of safety management principles, and the prevention of aircraft accidents and serious incidents.
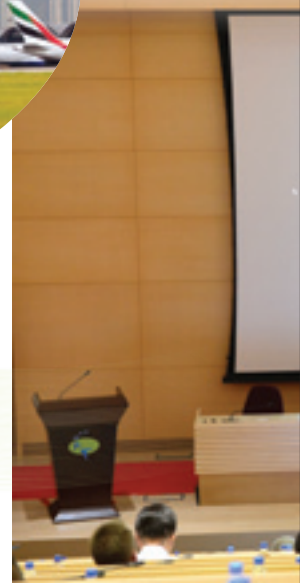
全球安全監督審計計劃持續監察方法的籌備工作

由二零一三年一月起，國際民航組織採用新的持續監察方法，取代以往對締約國展開周期安全監督審計的方法。

持續監察方法要求各締約國及民航當局，向國際民航組織提供相關資料，以供國際民航組織持續審計，從而加強各國及民航當局監督航空安全的能力，促進全球航空安全。

根據持續監察方法的最新發展，民航處積極展開籌備工作，並成立持續監察方法協調工作小組，制定行動計劃及執行的細節。工作包括向國際民航組織提供相關資料，並依循持續監察方法安排內部安全審計等事宜。

安全方案的實施

在安全方案方面，新制定的《附件19 — 安全管理》已於二零一三年十一月生效實施。民航處將按部就班，分階段推行相關的全球航空安全策略和安全管理條文，以持續優化安全規管工作。

USOAP CMA Preparations

The implementation of the new CMA by ICAO since January 2013 has substituted the previous cyclical audits on states by ICAO.

Under CMA, all states and administrations are required to provide the required information to ICAO for the latter's continuous review, with a view to enhancing the safety oversight capability of states and administrations and promoting global aviation safety.

In the light of the latest CMA developments, CAD has proactively started the preparation works and established a new CMA Coordination Working Group to formulate the action plans and implementation activities, which include provision of the required information to ICAO and conduct of CMA internal audits.

SSP Implementation

In respect of SSP, a new ICAO Annex 19 – Safety Management has become applicable since November 2013. CAD will adopt a phased approach to implement the related global aviation safety strategies and safety management provisions to continually enhance our safety regulations.

持續監察方法協調工作小組成員討論審計工作。
CMA Coordination Working Group members discussing audit tasks.

飛機意外及嚴重事故調查

民航處是本港的飛機意外調查當局，負責調查於香港發生的飛機意外及嚴重事故。調查工作由訓練有素的意外調查主任，根據《國際民航公約》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及因由，以避免事故再次發生。

意外調查辦公室負責為飛機意外及嚴重事故的調查工作提供行政支援。由二零一三年五月一日起，原本隸屬飛行標準及適航部的意外調查辦公室撥歸航班事務部，務求與安全策略辦公室更緊密合作，促進安全管理並避免飛機意外及嚴重事故發生。

年內，民航處公布了下列意外的調查報告：

- 二零一零年四月十三日，一架隸屬國泰航空的空中巴士A330型飛機，在即將抵達香港國際機場時，因發動機出現控制問題而發出遇險信號。航機其後以高速降落機場，機長緊急疏散乘客。疏散期間，共有57名乘客和6名機艙服務員受傷，當中大部分屬輕傷。

- 二零一零年十二月二十七日，政府飛行服務隊一架協助撲滅山火的歐洲直升機公司超級美洲豹AS332 L2型直升機，在受控情況下迫降在城門水塘。事件中機上三名機組人員和地面其他人士均無受傷。

- 二零一一年一月三日，一架隸屬直升機服務（香港）有限公司的Aerospatiale SA315B LAMA型直升機，在粉嶺九龍坑老圍山邊執行吊運任務。當直升機在一處架空高壓電棟附近的工地卸下負載物時，直升機的長索與一組架空線路之間發生閃絡，閃絡產生的火焰導致地面兩名工人受傷。

AIRCRAFT ACCIDENT AND SERIOUS INCIDENT INVESTIGATIONS

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

Accident Investigation Office is responsible for providing administrative support to the investigations of aircraft accidents and serious incidents. With effect from 1 May 2013, Accident Investigation Office was re-deployed from the Flight Standards and Airworthiness Division to the Air Services Division with a view to facilitating closer co-operation with Strategic Safety Office on the promotion of safety management principles and the prevention of aircraft accidents and serious incidents.

During the year, CAD published reports on the investigation of the following accidents:

- On 13 April 2010, an Airbus 330 aircraft operated by CPA declared an emergency with control problem on the engines when approaching Hong Kong International Airport (HKIA). The aircraft subsequently landed at a high ground speed at HKIA. The commander of the aircraft initiated an emergency evacuation of passengers. Fifty-seven passengers and six cabin crew were injured during the evacuation. Most of them sustained minor injuries.

- On 27 December 2010, a firefighting flight by a Eurocopter AS332 L2 Super Puma helicopter operated by the GFS ditched in a controlled manner into Shing Mun reservoir. There was no injury to the three crew members on board or other persons on the ground.

- On 3 January 2011, an Aerospatiale SA315B LAMA helicopter of HEL was conducting an underslung operation on the hillside of Kau Lung Hang Lo Wai, Fanling. When the helicopter was setting down a load onto a work site located near an overhead high voltage electricity line pole, a flashover occurred between the helicopter longline and a live overhead line of the circuit. The fire generated from the flashover led two ground workers to suffer burn injuries.

另外，仍在調查中的意外事故如下：

- 二零一零年七月三日，亞太航空旗下一架阿古斯塔威斯特蘭AW139型直升機，在上環空中快線直升機機場起飛後不久，尾槳脱落，在維多利亞港水面迫降。機組人員和乘客全部獲救。

- 二零一三年九月二十八日，一架隸屬香港飛行總會的塞斯納172P型定翼機，在石崗機場中斷着陸後復飛不成功，導致飛機於11號跑道的北面草地上着地，最後機身翻轉停於草坪。機上有兩名乘客受輕傷。

- 二零一三年十月六日，同屬香港飛行總會的Robinson R22 Beta II型直升機，在石崗機場進行懸停訓練期間，向右翻倒。機組人員和乘客安全撤離，無人受傷。

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

In addition, the following accidents are under investigation:

- On 3 July 2010, an Agusta Westland AW139 helicopter of East Asia Airlines 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 28 September 2013, a Cessna 172P aircraft of Hong Kong Aviation Club made an unsuccessful balked landing maneuver at Shek Kong Airfield. The aircraft landed on grassy area to the northern side of Runway 11 and came to a stop in an upside down position. Two passengers suffered from minor injuries.

- On 6 October 2013, a Robinson R22 Beta II helicopter of Hong Kong Aviation Club rolled over during a hover training exercise and came to rest on its right side at Shek Kong Airfield. The crew and the passenger left the helicopter safely without any injury.

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

意外調查主任均受過相關專業訓練，根據《國際民用航空公約》附件13的標準和建議措施進行調查工作。
Inspectors of Accidents have received relevant professional training to conduct investigation in accordance with ICAO Annex 13 Standards and Recommended Practices.

附錄

二零一三年四月至二零一四年三月期間，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. 航空保安專家組第24次會議	加拿大蒙特利爾	二零一三年四月八日至十二日
2. 廣播式自動相關監察系統實施專責小組第12次會議	印度加爾各答	二零一三年四月十五日至十八日
3. 亞太地區新一代航空專業人才及培訓項目研討會	印尼峇里	二零一三年四月二十三日至二十五日
4. 航空情報服務 ── 航空情報管理實施專責小組第八次會議	蒙古烏蘭巴托	二零一三年五月六日至十日
5. 亞太地區航空安全小組第三次會議	泰國曼谷	二零一三年五月七日至十日
6. 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17次會議	泰國曼谷	二零一三年五月十三日至十七日
7. 航空交通管理分組第一次會議暨機場營運及規劃專責小組第一次會議	泰國曼谷	二零一三年五月二十日至二十四日
8. 亞太地區無障礙航空交通管理規劃小組第四次會議	中國香港	二零一三年六月三日至七日
9. 亞太地區航行規劃和實施小組第24次會議	泰國曼谷	二零一三年六月二十四日至二十六日
10. 亞太地區區域航空安全小組第三次會議	泰國曼谷	二零一三年六月二十七日至二十八日
11. 2013年亞太地區航空保安協調論壇	泰國曼谷	二零一三年七月一日至二日
12. 亞太地區民航局局長第50次會議	泰國曼谷	二零一三年七月一日至四日
13. 航空區域航空交通服務設施間數據通訊專責小組第二次會議	泰國曼谷	二零一三年七月二十二日至二十六日
14. 亞太地區航空安全小組轄下亞太區意外調查小組第一次會議	印尼峇里	二零一三年九月十六日至十七日
15. 國際民航組織大會第38次會議	加拿大蒙特利爾	二零一三年九月二十四日至十月四日

Appendix

ICAO conferences and meetings attended by representatives of CAD between April 2013 and March 2014:

Name of Conference or Meeting	Venue	Dates
1. 24th Meeting of the Aviation Security Panel	Montréal, Canada	8 - 12 April 2013
2. 12th Meeting of Automatic Dependent Surveillance - Broadcast Implementation Task Force	Kolkata, India	15 - 18 April 2013
3. Regional Symposium on the Next Generation of Aviation Professionals and TRAINAIR PLUS, Asia and Pacific Regions	Bali, Indonesia	23 - 25 April 2013
4. 8th Meeting of the Aeronautical Information Services - Aeronautical Information Management Implementation Task Force	Ulaanbaatar, Mongolia	6 - 10 May 2013
5. 3rd Meeting of the Asia Pacific Regional Aviation Safety Team	Bangkok, Thailand	7 - 10 May 2013
6. 17th Meeting of the Communications / Navigation / Surveillance and Meteorology Sub-Group of the Asia Pacific Air Navigation Planning and Implementation Regional Group	Bangkok, Thailand	13 - 17 May 2013
7. 1st Meeting of the Air Traffic Management Sub-Group and 1st Meeting of the Aerodromes Operations and Planning Working Group	Bangkok, Thailand	20 - 24 May 2013
8. 4th Meeting of the Asia Pacific Seamless Air Traffic Management Planning Group	Hong Kong, China	3 - 7 June 2013
9. 24th Meeting of the Asia Pacific Air Navigation Planning and Implementation Regional Group	Bangkok, Thailand	24 - 26 June 2013
10. 3rd Meeting of the Regional Aviation Safety Group, Asia and Pacific Regions	Bangkok, Thailand	27 - 28 June 2013
11. Regional Aviation Security Coordination Forum 2013, Asia and Pacific Regions	Bangkok, Thailand	1 - 2 July 2013
12. 50th Conference of Directors General of Civil Aviation, Asia and Pacific Regions	Bangkok, Thailand	1 - 4 July 2013
13. 2nd Meeting of the Inter-regional Air Traffic Service Inter-facility Data Communication Task Force	Bangkok, Thailand	22 - 26 July 2013
14. 1st Meeting of the Asia Pacific Regional Aviation Safety Team - the Asia Pacific Accident Investigation Group	Bali, Indonesia	16 - 17 September 2013
15. 38th Session of the ICAO Assembly	Montréal, Canada	24 September - 4 October 2013

會議名稱	地點	日期
16. 亞太地區航空交通流量管理主導小組第二次會議	中國香港	二零一三年九月三十日至十月四日
17. 電離層研究專責小組第三次會議	韓國首爾	二零一三年十月十五日至十七日
18. 危險品專家組第24次會議	加拿大蒙特利爾	二零一三年十月二十八日至十一月八日
19. 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九次會議	中國北京	二零一三年十月三十日至十一月一日
20. 先進航空交通管理技術研討會	加拿大蒙特利爾	二零一三年十一月四日至六日
21. 互助發展運作安全和持續適航計劃東南亞區主導委員會第15次會議	泰國曼谷	二零一三年十一月二十五日至二十六日
22. 2013年技術與操作會議	印尼峇里	二零一三年十一月二十七日至二十八日
23. 區域共同虛擬專用網絡專責小組第一次會議	泰國曼谷	二零一三年十二月二日至四日
24. 多機組飛行員執照研討會	加拿大蒙特利爾	二零一三年十二月十日至十二日
25. 亞太地區飛行程序計劃主導委員會第五次會議	中國北京	二零一三年十二月十七日至十八日
26. 亞太地區互助航空保安計劃主導委員會第十次會議之下的特別會議	新加坡	二零一四年二月十三日
27. 南亞及印度洋航空交通管理協調小組第四次會議暨東南亞航空交通服務協調小組第21次會議	泰國曼谷	二零一四年二月十七日至二十日
28. 亞太地區航空交通流量管理主導小組第三次會議	新加坡	二零一四年三月十日至十四日
29. 航空保安專家組第25次會議	加拿大蒙特利爾	二零一四年三月十七日至三十一日
30. 為通過1963年《東京公約》議定書擬議條文草案而召開的外交會議	加拿大蒙特利爾	二零一四年三月二十六日至四月四日

| Name of Conference or Meeting	Venue	Dates
16. 2nd Meeting of the Asia Pacific Air Traffic Flow Management Steering Group	Hong Kong, China	30 September - 4 October 2013
17. 3rd Meeting of Ionospheric Studies Task Force	Seoul, Republic of Korea	15 - 17 October 2013
18. 24th Meeting of the Dangerous Goods Panel	Montréal, Canada	28 October - 8 November 2013
19. 9th Meeting of the Southeast Asia and Bay of Bengal Sub-Regional Automatic Dependent Surveillance - Broadcast Implementation Working Group	Beijing, China	30 October - 1 November 2013
20. Advanced Air Traffic Management Techniques Symposium	Montréal, Canada	4 - 6 November 2013
21. 15th Steering Committee Meeting of the Co-operative Development of Operational Safety and Continuing Airworthiness Programme - Southeast Asia	Bangkok, Thailand	25 - 26 November 2013
22. Technical and Operational Meeting 2013	Bali, Indonesia	27 - 28 November 2013
23. 1st Meeting of the Common Regional Virtual Private Network Task Force	Bangkok, Thailand	2 - 4 December 2013
24. Multi-crew Pilot Licence Symposium	Montréal, Canada	10 - 12 December 2013
25. 5th Meeting of the Asia Pacific Flight Procedure Programme Steering Committee	Beijing, China	17 - 18 December 2013
26. Special Meeting of the 10th Steering Committee for the Cooperative Aviation Security Programme – Asia Pacific	Singapore	13 February 2014
27. Combined 4th Meeting of the South Asia/Indian Ocean Air Traffic Management Coordination Group and 21st Meeting of the South-East Asia Air Traffic Services Coordination Group	Bangkok, Thailand	17 - 20 February 2014
28. 3rd Meeting of the Asia Pacific Air Traffic Flow Management Steering Group	Singapore	10 - 14 March 2014
29. 25th Meeting of the Aviation Security Panel	Montréal, Canada	17 - 31 March 2014
30. Diplomatic Conference to adopt the proposed draft text of the Protocol to the Tokyo Convention of 1963	Montréal, Canada	26 March - 4 April 2014

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。在二零一三至二零一四年度，本處的總收入達10.94億元，同期總經營支出（包括政府其他部門提供服務的成本）為11.73億元。年內資本開支達4.13億元，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 2013-2014 amounted to $1,094 million. Total operating expenditure including costs of services provided by other government departments for the same period amounted to $1,173 million. Capital expenditure during the year amounted to $413 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 (2013-2014)

7%

24%

69%
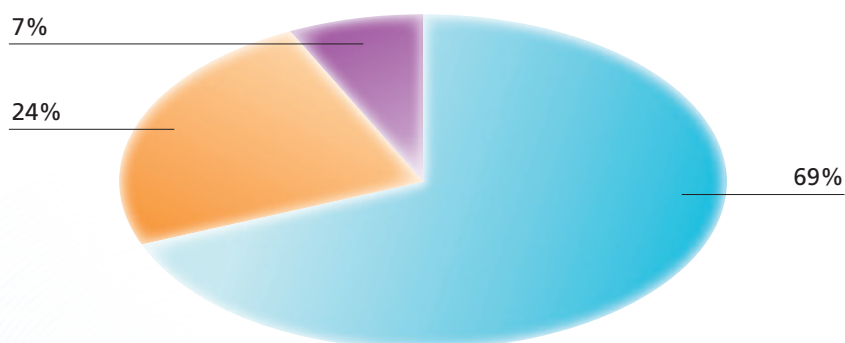
	百萬元$(M)
● 航空交通 Air Traffic Services	755
● 過境導航 En-route Navigation Services	265
● 牌照及其他收費 Licences and Other Fees	74
	1,094

開支分析 Analysis of Expenditure (2013-2014)

7%

12%

25%

56%
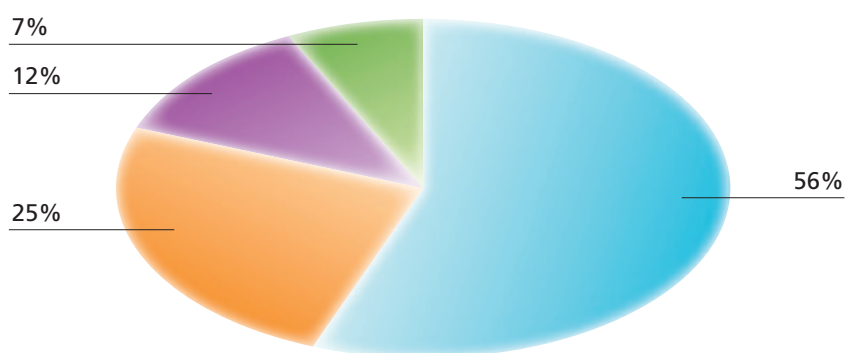
	百萬元$(M)
● 員工支出 Staff	652
● 經營及行政支出 General Expenses	293
● 折舊 Depreciation	143
● 維修 Maintenance	85
	1,173