

Doc 10001



Documentation for the session  
of the Assembly in 2013

# Annual Report of the Council

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2012

International Civil Aviation Organization

"WHEREAS the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security; and

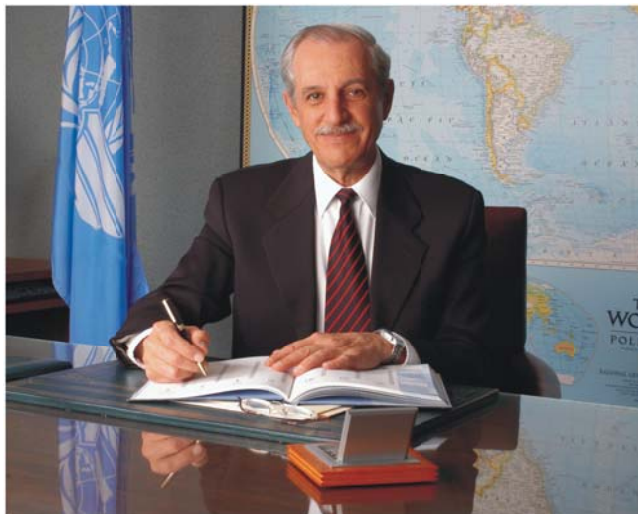
"WHEREAS it is desirable to avoid friction and to promote that cooperation between nations and peoples upon which the peace of the world depends;

"THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically;

"Have accordingly concluded this Convention to that end."

Preamble to the  
Convention on International Civil Aviation  
Signed at Chicago, on 7 December 1944

## MESSAGE FROM THE PRESIDENT OF THE COUNCIL



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### TO THE ASSEMBLY OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION

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*I have the honour to transmit, at the direction of the Council, its Report for the year 2012 prepared in compliance with Article 54(a) of the Convention on International Civil Aviation. It constitutes documentation for the next regular Session of the Assembly, which will be convened in 2013, but it is being circulated to Member States now for their information. It will also be sent to the Economic and Social Council of the United Nations in pursuance of Article VI, paragraph 2 (a) of the Agreement between the United Nations and ICAO.*

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#### **Towards the sustainable growth of international civil aviation**

For ICAO, 2012 was by any measure a challenging and productive year. Most noteworthy perhaps was a concerted effort to further develop and begin implementing a multifaceted strategy for dealing with the projected growth of international civil aviation in the decades to come, with particular emphasis on the overall sustainability of the global air transport system.

A revision to the Global Air Navigation Plan, incorporating the innovative Block Upgrades concept, emphasizes a performance-based approach to all air navigation activities. The revised Plan establishes clear targets and measures progress so that programmes are optimally focused, affordable and relevant.

Measurement is key to systematic and constant progress and is at the heart of the first annual *Safety Report* published this year, based on the more comprehensive *State of Global Aviation Safety Report* published in 2011. Performance also shaped extensive work on the new Annex 19 — *Safety Management*, the first new Annex developed in 30 years and which consolidates Standards and Recommended Practices (SARPs) and guidance material on safety management from six separate Annexes.

Likewise, the High-level Conference on Aviation Security in September produced clear recommendations designed to ensure that future security solutions are implemented sustainably, in terms of costs for States and industry, while improving the overall travel experience of passengers. The proactive strategies and actions put forth benefitted from considerable international cooperation and improved information-sharing between States, air transport and law enforcement agencies. Agreement was reached on establishing processes for identifying and handling high-risk air cargo and on a blueprint for monitoring State compliance with security provisions through ICAO security audits.

As for the environment, the adoption of a new metric system will prove fundamental to the development of a CO<sub>2</sub> emissions standard for aircraft, currently projected for 2015. Progress was made on developing policy recommendations for sustainable alternative fuels, which are progressively being incorporated into commercial airline operations. In June, ICAO coordinated four connecting flights powered by such fuels to bring its Secretary General from Montréal to Rio de Janeiro for the United Nations Conference on Sustainable Development (Rio+20). ICAO's research into the feasibility of a global Market-based Measure (MBM) applicable to international aviation emissions proceeded on course, as did its work on the development of an MBM framework to support State MBM programmes.

Setting the tone for a new thrust on sustainability was the Council decision on a new vision and mission for the Organization for the next triennium, 2014-2016: "Achieve the sustainable growth of the global civil aviation system". A corresponding new strategic objective was established entitled "Economic Development of Air Transport: Foster the development of a sound and economically viable civil aviation system".

The new Objective includes the development of policies and guidance on air transport regulation, infrastructure management and the economics of aviation activities, including consumer protection, taxation, fair competition and user charges, as well as for economic regulation and oversight. Also included are facilitating access to funding for aviation infrastructure and financing of the air transport system. These considerations were discussed at an Air Transport Symposium held in March to set the stage for the Sixth Worldwide Air Transport Conference (ATConf/6) in 2013. The Symposium was followed by a series of regional seminars to help make States better aware of the sustainability issues.

At the same time, ICAO continued to adjust its programmes and targets in the face of the significant economic and budgetary pressures that have persisted since the global economic crisis of 2008/2009. These adjustments were often complex yet they proved productive in adapting many of the structures and processes to a new way of doing business, ultimately resulting in a leaner and more effective ICAO, better equipped to respond to the evolving needs of Member States and other groups within the world aviation community.

The full range of achievements and activities described in this 2012 Annual Report are a testimony to the spirit of cooperation and consensus that permeates this Organization and its relations with the stakeholders it serves.



Roberto Kobeh González  
President of the Council

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Zambia  
Zimbabwe



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South Africa  
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Uganda  
United Arab Emirates  
United Kingdom  
United States

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## NOTES

The Appendices to this report are available exclusively at:

<http://www.icao.int/publications/Pages/annual-reports.aspx>

The text of this report as printed, as well as excerpts from previous years' reports, can also be accessed there.

All dollar amounts listed are in United States dollars (USD), unless otherwise specified.

The term 1 billion represents 1 000 million.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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The International Civil Aviation Organization, created in 1944 to promote the safe and orderly development of civil aviation worldwide, is a specialized agency of the United Nations. Headquartered in Montréal, ICAO develops international air transport standards and regulations and serves as the medium for cooperation in all fields of civil aviation among its 191 Member States.





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**THE WORLD OF AIR TRANSPORT  
IN 2012**



# THE WORLD OF AIR TRANSPORT IN 2012

In 2012, world scheduled passenger-kilometres performed by airlines of Member States increased by about 4.9 per cent over 2011 — international and domestic services combined — according to preliminary traffic statistics compiled by ICAO. The number of passengers rose to almost three billion, about 4.7 per cent higher than last year, while the number of departures reached 31.2 million globally in 2012, a 0.7 per cent increase compared to 2011. Detailed air transport statistics are available at <http://www.icao.int/publications/Pages/annual-reports.aspx>.

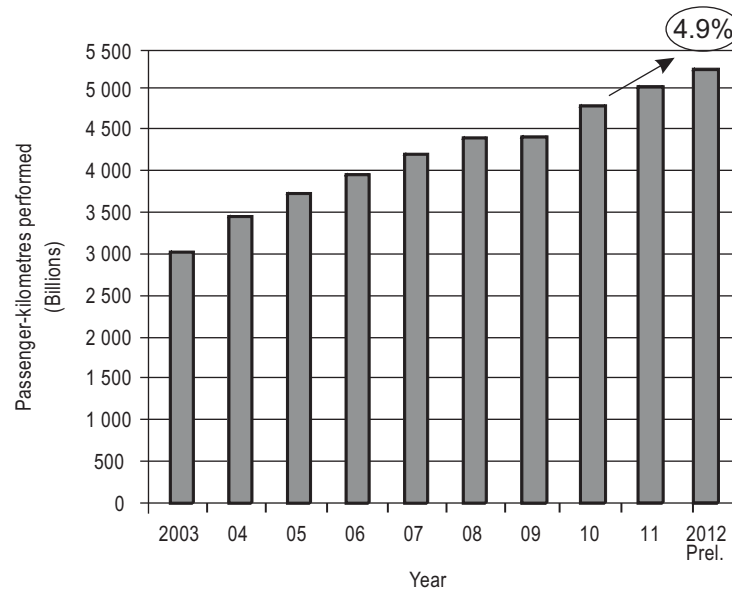
Overall growth in passenger traffic mirrored positive economic growth worldwide. IHS Global Insight, a major global economic forecasting organization, estimates the world's real Gross Domestic Product to have increased by 2.3 per cent in 2012.

In terms of passenger-kilometres performed, international and domestic services combined, Asia/Pacific remains the largest Region with 30 per cent of the world traffic, posting a 6.4 per cent growth. Both Europe and North America represent 27 per cent of the world traffic each and grew at 3.9 and 1.3 per cent, respectively. The Middle East recorded the highest growth with 13.7 per cent and represents 8 per cent of the world traffic. The Latin America/Caribbean Region accounts for 5 per cent of the world traffic and grew at 8.6 per cent. The rest of the world traffic (2 per cent) is performed by airlines of the African Region, growing at 4.2 per cent in 2012.

Specifically, in terms of passenger-kilometres performed, international traffic grew by 5.4 per cent in 2012. The largest increase was registered by airlines of the Middle East, with 14.3 per cent growth, followed by those of the Latin America/Caribbean Region (8.9 per cent), the Asia/Pacific Region (4.6 per cent) and Europe (4.4 per cent). International traffic of Africa and North America grew by 4.2 and 2.0 per cent, respectively. However, in the case of North America, this comparatively low growth figure relates to a larger traffic base and therefore still represents a significant increase in absolute terms.

In terms of domestic air services, markets overall grew by 4.1 per cent. Growth rates of 0.1, 0.9 and 3.6 per cent in Europe, North America, and the Middle East, respectively, were much lower than those achieved by the African, Latin America/Caribbean and Asia/Pacific Regions (4.3, 8.4 and 8.6 per cent, respectively).

Asia/Pacific traffic saw an increase of 10.3 per cent in the domestic Chinese market. In North America, still the world's largest domestic market with 47 per cent of the world domestic scheduled traffic, deceleration of traffic growth is confirming the maturity of this market.



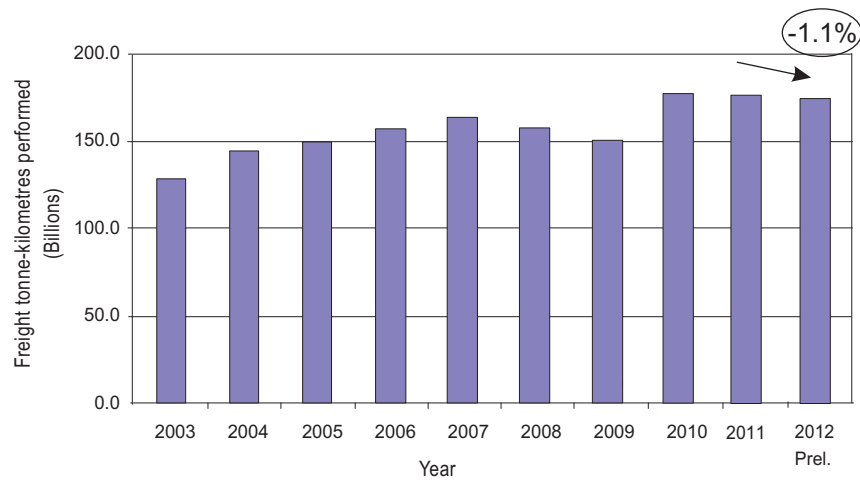
**Figure 1. Total scheduled traffic passenger-kilometres performed, 2003-2012**

Overall, the international traffic growth along with the growth in domestic markets in developing countries, coupled with different economic growth rates among Regions, created varying patterns of growth and the regional disparities were noted.

Capacity offered by the world's airlines, expressed as available seat-kilometres, increased globally by 3.9 per cent. While capacity growth ranged from 0.4 per cent in North America to 12.0 per cent in the Middle East, the average global load factor increased by 0.75 percentage points compared to 2011, ranking from 68 per cent for Africa to 83 per cent for North America.

The total number of departures on scheduled services grew slightly at 0.7 per cent compared to 2011. This marginal increase of the number of flights compared to traffic growth, coupled with a significant improvement in the passenger load factors reflects a more efficient management of airline operations.

Air cargo, in terms of freight tonne-kilometres performed, posted a decrease of -1.1 per cent with approximately 49.2 million tonnes of freight carried. The carriers of the Middle East and Africa showed double digit growth rates. The other Regions recorded either negative or marginal growth, due mainly to a slower than expected economic recovery in the advanced economies. Asia/Pacific, the world's largest region in terms of scheduled freight tonne-kilometres performed, recorded a second consecutive negative growth with a -4.0 per cent decrease in 2012. The negative economic growth in the Eurozone reduced demand for imported goods and then affected the air cargo market worldwide



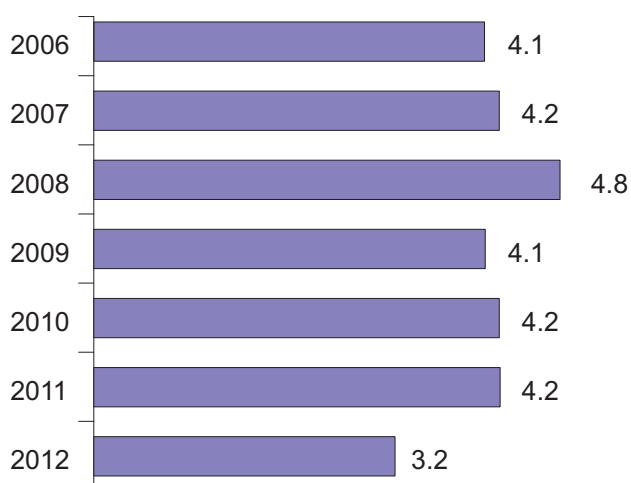
**Figure 2. Total scheduled freight traffic**

Based on available figures, ICAO is estimating an operating profit of about 1.8 per cent of operating revenues, for scheduled airlines of ICAO Member States.

The global air transport network has doubled in size every 15 years since 1977 and, between now and 2030, it is poised to double again. The three billion airline passengers carried in 2012 are expected to grow to over six billion by 2030, and the number of departures are forecast to grow from 31 million in 2012 to some 60 million in 2030. The latest forecasts are contained in the *Global Air Transport Outlook to 2030 and trends to 2040* (Cir 333).

Oil prices remain a potential impediment to air transport growth, although this could be mitigated to a certain extent by the delivery of new and more fuel-efficient aircraft.

With regard to new aircraft, the world's two major manufacturers delivered 1 189 aircraft. Deliveries were 18 per cent higher than the 2011 record. The new, more fuel-efficient aircraft will help reduce the carbon footprint of the aviation sector and support efforts to address climate change.



Accidents per million scheduled departures

**Figure 3. Global accident rate and trend, 2003-2012**

As for aviation safety, there were 99 aircraft accidents (9 fatal) on scheduled air services in 2012, a decrease of 21 per cent from 2011, when 126 accidents were reported. This is according to an analysis of global safety data involving commercial air transport aircraft with a maximum certificated take-off mass of more than 2 250 kilograms. The number of fatalities in scheduled operations worldwide dropped to 372 fatalities, from 414 in 2011, a decrease of 10 per cent. The global accident rate decreased by 24 per cent to 3.2 accidents per million schedule departures versus 4.2 accidents per million scheduled departures in 2011.

Non-scheduled commercial passenger operations experienced 42 accidents (10 fatal), compared with 36 accidents in the previous year (based on preliminary data). The number of passenger fatalities associated with non-scheduled commercial operations decreased to 74 from 112 in 2011. Accident rates for non-scheduled operations could not be estimated because of the lack of comprehensive traffic figures related to such services.

With regard to acts of unlawful interference, 10 incidents were recorded in 2012. Among these were 3 attempts to sabotage aircraft (one involving a pilot imposter who occupied a cockpit jump seat); 1 unlawful seizure of an aircraft and 2 failed attempts to seize aircraft in-flight; 2 attacks on civil aviation facilities; and a suicide bombing on a landside bus at a civil airport. Details concerning all 2012 events are available in the Acts of Unlawful Interference Database which is accessible at ICAO's secure website.

More comprehensive safety data are available at [www2.icao.int/en/ism/istars](http://www2.icao.int/en/ism/istars).

# **Strategic Objective A: SAFETY**



# SAFETY

Aviation safety is fundamental to the mandate and mission of ICAO. Continuous safety enhancements have a direct and positive impact on the overall efficiency and environmental performance of the global air transport system. They promote the viability and profitability of commercial air transport operations, as well as public confidence in air travel.

The Organization's safety objectives and programmes are highly coordinated and collaborative. They reflect the needs of Member States and benefit from contributions from industry and major aviation organizations around the world. The drive to consistently improve upon aviation's successful safety record covers four key areas:

- **Policy and Standardization** activities;
- The **Monitoring** of key safety trends and indicators;
- **Safety Analysis**;
- The **Implementation** of targeted safety programmes.

Efforts are enhanced by ICAO evolving its safety strategies on the basis of advanced risk management principles — a core tenet of current State Safety Programmes (SSP) and Safety Management Systems (SMS).

In 2012, ICAO strove to achieve a balance between identified and assessed risk on the one hand, and the aviation sector's requirement for practical and achievable mitigation strategies on the other.

## **Air Traffic Management (ATM) — Airspace**

### *Remotely-piloted aircraft systems*

In March, the Council adopted Standards related to remotely-piloted aircraft (RPA) systems for Annex 2 — *Rules of the Air* and Annex 7 — *Aircraft Nationality and Registration Marks*. The Standards form the first layer of the regulatory framework to support the integration of RPA in non-segregated airspace and at aerodromes. They require: certification of the airworthiness of the RPA and the associated components of the system; approval of the RPA system as a whole; certification of the operator; and licensing of the remote pilots. They also provide States and operators with material in support of the special authorization mandated by Article 8 of the *Convention on International Civil Aviation* (Doc 7300). The development of a supporting guidance manual was initiated.



#### *Implementation of the new ICAO flight plan format*

ICAO continued its implementation support to States, with the assistance of the Regional Offices, on the new ICAO model flight plan, which became applicable on 15 November as part of Amendment 1 to the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444).

To reduce the risk of major operational disruptions related to the implementation of the new flight plan, ICAO promoted interregional harmonization through a series of workshops offered in all regions. The Regional Offices provided focused assistance where specific needs had been identified.

The Organization also monitored the global operational transition to the new flight plan, from 13 to 16 November, in real time and in close cooperation with the International Air Transport Association (IATA) and the Civil Air Navigation Services Organisation (CANSO). Using technical facilities established at ICAO Headquarters specifically for emergency and incident response operations, the status of States' implementation of the new flight plan was kept constantly up to date on a dedicated ICAO website.

With this successful transition, States and the entire global civil aviation community can benefit from significant ATM performance improvements resulting from detailed flight plan information on the advanced communication, navigation and surveillance capabilities of modern aircraft.

#### *Collaborative decision-making and air traffic flow management*

ICAO published the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971) which strikes a balance between the requirement to improve the safety, efficiency, cost effectiveness and environmental sustainability of the ATM system, and the needs of individual ATM stakeholders in a collaborative decision-making environment. The guidance material encourages maximum use of the enhanced capabilities provided by technical advances and by improved decision-making by the ATM actors involved in the entire duration of a flight, thereby facilitating the introduction of four-dimensional, trajectory-based operations.

### **Performance-based Navigation (PBN)**

To support PBN implementation, three manuals were developed and one amended. A new *Performance-based Navigation (PBN) Operational Approval Manual* (Doc 9997) addresses PBN implementation from the flight operational perspective, and two other manuals will assist States with implementing PBN in their airspace: the *Manual on the Use of Performance-based Navigation in Airspace Design* (Doc 9992) and the *Continuous Climb Operations (CCO) Manual* (Doc 9993). The *Performance-based Navigation (PBN) Manual* (Doc 9613) was updated with new navigation specifications and functionalities to address aviation system block 0 and 1 upgrades.

In October, in the lead-up to the Twelfth Air Navigation Conference (AN-Conf/12), ICAO conducted a PBN Symposium and Workshops to highlight the progress in global PBN deployment and the urgency in expediting implementation. These events also emphasized PBN as the global aviation community's highest air navigation priority and highlighted the collaborative team approach required for successful implementation. Feedback from participants indicated that the event was beneficial to understanding the latest PBN developments and in addressing specific needs.

At both the PBN Symposium and AN-Conf/12, participants were given a special PBN implementation kit, or iKit, that included essential explanatory information, practical documentation and the latest ICAO guidance material on implementing PBN. The iKit was developed primarily for aviation professionals (executives, regulators, air navigation services providers, aircraft manufacturers and aircraft operators) and tailored to their particular responsibilities and areas of interest.

As part of the drive to accelerate PBN implementation, regional ICAO PBN Go Team visits were held in Ecuador, India and the Russian Federation. Regional implementation workshops were held in Europe (Armenia, Azerbaijan, Georgia) and Asia (including Myanmar, Indonesia and Philippines). The Go Team visits and workshops addressed existing gaps and provided recommendations to help States with PBN implementation.

### **Air navigation capacity and efficiency**

#### *Revised Global Air Navigation Plan (GANP)*

The fourth edition of the GANP, which focuses on capacity and efficiency, was completed and presented to, and endorsed by, AN-Conf/12. The document builds on previous editions and now includes milestones, planning guidance, reporting provisions and roadmaps showing the technologies needed to support implementation of the GANP.

This latest edition recognizes that States and regions will have different requirements, depending on the demands of their airspace, and allows them to select only those measures they find appropriate and necessary. The GANP nonetheless ensures that measures are implemented by States or regions in a consistent and interoperable manner around the globe. It also goes beyond earlier editions in specifying the technologies and measures to be implemented by airspace users as well as by air traffic service providers. This resulted from a lengthy cooperative process to determine the needs of all stakeholders in the global ATM system. Finally, the revised GANP introduces a new planning tool, the aviation system block upgrades.

#### *Aviation System Block Upgrades (ASBUs)*

The ASBUs are a vital component of the revised GANP. They provide a set of phased operational improvements that can be implemented in three steps, or

“blocks”, over a period of 15 years. This permits stakeholders to gain experience with new methods, procedures and technologies as they progress to the truly advanced concepts outlined in the *Global Air Traffic Management Operational Concept* (Doc 9854). The operational improvements cover all types of airspace and represent a toolbox from which States and regions can choose to improve the capacity and efficiency of their airspace, in line with their unique operational and traffic density profiles. The ASBUs will ensure harmonious implementation of the global operational concept, since each item is supported by a detailed list of the procedures, technologies and regulatory approvals needed for its implementation. Importantly, the block upgrades provide both strategic planning flexibility and greater investment certainty. Information on existing trials and implementations is made available to assist in planning and decision making.

The ASBUs result from a two-year collaborative effort involving all stakeholders in the global ATM system, these being States, airspace users, airframe and equipment manufacturers, and industry groups including those representing organized labour.

#### **Twelfth Air Navigation Conference (AN-Conf/12)**

The primary goal of AN-Conf/12 was to ensure coherent and harmonized ATM modernization and implementation, for continued safe, reliable and efficient air transport. Key on the agenda were the strategic issues of integration, interoperability and harmonization of systems in support of the “One Sky” concept for international civil aviation. These topics were also central to the fourth edition of the GANP and the ASBU planning strategy contained in the global plan.

The Conference, attended by 1 032 delegates from 120 States and 30 international organizations, produced 56 recommendations, many of which were related to the revised GANP. It also endorsed the GANP, subject to its specific recommendations. The GANP requires Council approval.

#### **Safety management**

##### *Development of Annex 19*

A proposal for a new Annex on Safety Management, Annex 19, was delivered by the Safety Management Panel as an outcome of its special meeting in February. Planned applicability for the proposed Annex is November 2013.

In May, a draft third edition of the *Safety Management Manual (SMM)* (Doc 9859) was posted on ICAO’s website, with its finalization pending the Council’s decision on the new Annex. This latest edition is restructured and updated to support Annex 19, with one of the four chapters dedicated to guidance on State safety programmes.

*Global Aviation Safety Plan (GASP)*

Work to update the GASP was initiated for eventual submission to Council for consideration.

**Aerodrome safety***Runway safety*

Under the Global Runway Safety Symposium 2011 framework, and with support from ICAO's runway safety partners, six regional runway safety seminars were delivered — in Amsterdam, Amman, Bali, Quito, Cape Town and Moscow. The primary objective was to promote and support the establishment of multidisciplinary runway safety teams (RSTs) at individual airports.

Electronic tools to assist RSTs in tracking the identification and mitigation of hazards were developed and posted on ICAO's runway safety website, as was a survey to monitor progress on the establishment of RSTs. The development of an RST handbook was undertaken based on survey results.

*New circular on Assessment, Measurement and Reporting of Runway Surface Conditions*

A new circular, *Assessment, Measurement and Reporting of Runway Surface Conditions* (Cir 329), was published. It provides a conceptual understanding of the surface friction characteristics that contribute to controlling an aircraft through the critical tire-to-ground contact area. The document explains broad and fundamental concepts to support proposed amendments to the related SARPs in Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*, and Annex 15 — *Aeronautical Information Services*. As part of ICAO's runway safety programme, the circular will facilitate the development of a future global reporting format for runway surface conditions to help prevent and reduce runway excursion events.

*Annex 14: Comprehensive amendment on aerodrome design and operations*

A comprehensive amendment to Annex 14 — *Aerodromes*, involving both Volume I — *Aerodrome Design and Operations* and Volume II — *Heliports*, was initiated. The changes, planned for applicability in November 2013, are aimed at enhancing aerodrome safety and efficiency in a globally harmonized manner. They cover a wide range of subjects including: new and revised provisions on effective runway surface friction measurement and reporting for the prevention and reduction of runway excursions; runway end safety areas and arresting systems to mitigate the consequences of a runway overrun; the strengthening of blast pads to avoid engine ingestion of foreign object debris during take-off; visual aids for navigation including the use of LED technology that reduces energy consumption; and the introduction of new and more efficient performance level "C" foam for aerodrome rescue and firefighting.

## Accident investigation

### *New guidance material*

ICAO published two new manuals relating to accident and incident investigation: the *Manual of Aircraft Accident and Incident Investigation, Part II — Procedures and Checklists* (Doc 9756) and the *Manual on Accident and Incident Investigation Policies and Procedures* (Doc 9962).

Doc 9756, Part II, contains information on techniques and procedures, as well as checklists, to assist States in aircraft accident and incident investigations. It also provides guidelines on an investigation management system for use in major accident investigations.

Doc 9962 offers guidance to States in the development of policies and procedures for investigations, including a template for States to modify, as necessary, their accident and incident investigation documentation, so as to conform with provisions of Annex 13 — *Aircraft Accident and Incident Investigation*. The manual was developed in a user-friendly manner whereby States can easily customize it by “filling in the blanks” with State-specific material such as legislation and regulations.

### *ICAO policy on family assistance*

The Assistance to Aircraft Accident Victims Policy Task Force created by Council developed a draft “ICAO Policy on Assistance to Aircraft Accident Victims and Their Families”. This was pursuant to Assembly Resolution A32-7 which called on States to reaffirm their commitment to support aircraft accident victims and their families, and to review, develop and implement relevant regulations and programmes.

### *AIG-related USOAP findings*

The eighth Accident Investigation and Prevention (AIG) Divisional Meeting (2008) recommended that ICAO assess Annex 13-related findings of the Universal Safety Oversight Audit Programme (USOAP) to identify the most common serious concerns and to develop measures for their resolution. With the assistance of a subject-matter expert and the Accident Investigation Methodology Study Group, the Secretariat Group began the development of a model framework for AIG legislation and regulations.

## Safety audits

### *Continuous Monitoring Approach (CMA)*

The evolution of the USOAP to a CMA continued in line with the two-year transition plan under Assembly Resolution A37-5. All activities required for a full launch of CMA in January 2013 were completed. Tools required for the conduct of CMA were redesigned and made available for interactive use in real time on the CMA online framework. Supporting guidance material and documentation for CMA were finalized, including the publication of the newly titled *Universal Safety Oversight Audit Programme Continuous Monitoring Manual* (Doc 9735) in all ICAO languages.

Computer-based training (CBT) was conducted to prepare auditors and experts to perform CMA activities, including ICAO Coordinated Validation Missions (ICVMs) and USOAP audits. CBT was also used as familiarization training for State employees on the methodology and other aspects of the programme. By year end, 145 participants from 25 States and 4 international organizations had received the USOAP auditor/ICVM training; and 176 participants from 48 States and 4 international organizations had taken the familiarization training.

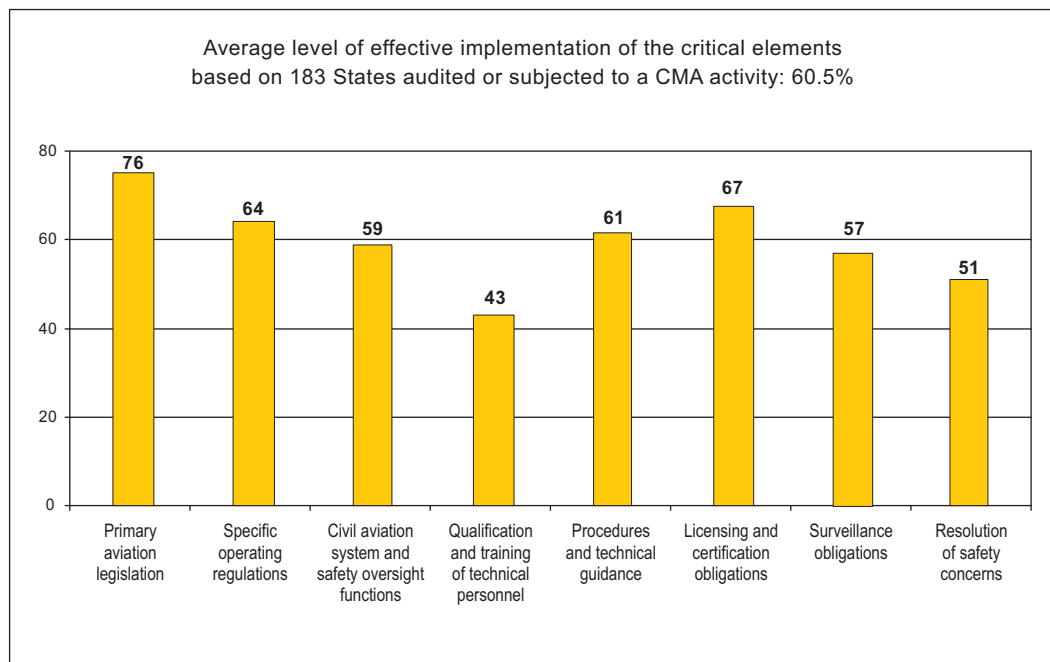
In addition, ICAO conducted seven seminars/workshops in all ICAO regions to assist States in preparing for CMA. The seminars/workshops were attended by 284 participants from 71 States and 6 international organizations.

ICVMs were conducted in 21 States to determine whether previously identified safety deficiencies had been satisfactorily resolved. In addition, three comprehensive system audits (CSAs) were conducted during this period.

The Regional Offices were actively involved in the development of State-specific Plans of Action that provide a framework for assisting States to resolve, in a timely manner, ICAO-identified Significant Safety Concerns (SSCs) and/or safety oversight deficiencies. The Regional Offices presented the Plans to States, at the ministerial level, for endorsement and commitment to carrying them out. They also worked with States through on-site activities, such as CSA audits, limited CSA audits and ICVMs.

### *Quality management system*

The quality management system of the CMO Section was expanded to include USOAP CMA. Quality processes were also applied in other sections of the Air Navigation Bureau (ANB) and in the ICAO Regional Offices in support of USOAP CMA activities. The CMO Section was recertified to the ISO 9001:2008 standard for quality management systems.



**Figure 4. Global audit results — level of implementation of the critical elements of a safety oversight system**

#### *Monitoring and Assistance Review Board (MARB)*

In December 2011, the Secretary General established the MARB to provide senior management oversight and direction to ICAO monitoring and assistance activities conducted in States referred for safety and/or security reasons. Specifically, the MARB develops and promotes the implementation of high-level strategies designed to coordinate monitoring and assistance activities in States with significant safety or security concerns, in States not participating in ICAO's audit and monitoring processes, and in States not fulfilling their commitments regarding the implementation of their corrective action plans. A total of 17 States were referred to the MARB in 2012.

#### **Emergency response**

##### *Volcanic ash — Preparedness and response to volcanic eruptions and volcanic ash in the atmosphere*

In June, ICAO's International Volcanic Ash Task Force concluded a 24-month exercise to address the multidisciplinary issues highlighted by the 2010 eruption of the Eyjafjallajökull volcano in Iceland. The event had caused significant disruption to air transport in Europe, the North Atlantic and beyond. The task force significantly improved the community's understanding of volcanic ash

detection and forecasting needs and capabilities, as well as the operational and airworthiness effects of volcanic ash clouds on continued safe and efficient flight operations, including ATM contingency planning, and affirmed the importance of a collaborative and coordinated response to such events by regulatory authorities, air navigation services providers and airspace users.

Among the many accomplishments of the task force was the development of new and improved volcanic ash-related ICAO provisions and guidance material, including the development of a manual on *Flight Safety and Volcanic Ash — Risk management of flight operations with known or forecast volcanic ash contamination* (Doc 9974). It was published early in the year as a co-branded industry publication that States may recommend to operators and regulatory authorities where volcanic ash contamination may be a hazard for flight operations. ICAO's work to further enhance the preparedness for, and response to, volcanic eruptions continues, in particular, within the International Airways Volcano Watch Operations Group.

#### *Nuclear and radiological emergencies*

ICAO continued to assist the International Atomic Energy Agency's (IAEA) Inter-Agency Committee on Radiological and Nuclear Emergencies in improving its *Joint Radiation Emergency Management Plan of International Organizations*, based particularly on the lessons learned following the general emergency at the Fukushima Daiichi nuclear power plant that occurred as a result of the Great East Japan earthquake and tsunami on 11 March 2011. The Joint Plan describes inter-agency emergency preparedness and response arrangements for nuclear or radiological incidents or accidents, irrespective of their cause. A revision of the Joint Plan was initiated to reflect the Japanese experience. As part of the Joint Plan arrangements, ICAO led the establishment of an ad hoc working group on air and maritime transportation which may be activated during future emergencies in order to enable the international organizations and trade associations concerned to respond in a collaborative and coordinated manner, notably through the communication of consistent, authoritative information to reassure the travelling public.

#### *Air traffic service contingency planning*

Although 2012 did not require, on the basis of global events, significant contingency planning on the part of ICAO, the opportunity was taken to establish a permanent Emergency and Incident Contingency Centre at ICAO Headquarters. The Centre became the functional location for facilitating and improving ICAO's contingency planning for any and all global situations requiring the support of ICAO. These include disruptions in the provision of air navigation services due to circumstances such as significant meteorological events or regional conflicts. It was used in November to support the global transition to the new ICAO Model Flight Plan, as explained above, demonstrating how it can also serve to foster sustained levels of flight safety and security.



### Other safety initiatives — Aviation fuel

#### *Aviation fuel contamination — collaborative work with industry*

In April 2011, ICAO accepted a safety recommendation from the Civil Aviation Department of Hong Kong SAR, China, arising from an investigation of a Cathay Pacific Airlines A330 accident in 2010 during which fuel contamination caused aircraft damage and passenger injuries during an emergency evacuation. To address the emerging issue of aviation jet fuel quality, which can impact aviation safety, ICAO worked with the aviation and petrochemical industries to develop provisions on the proper receipt, storage and distribution of aviation fuel at airports for commercial transport aircraft.

Working in collaboration with IATA, Airlines for America (A4A) and the Airports Council International (ACI), ICAO published the *Manual on Civil Aviation Jet Fuel Supply* (Doc 9977), to inform the aviation and petroleum industries about internationally accepted fuel practices and to reinforce the need for compliance with them. The manual summarizes relevant industry policies, standards and procedures that cover all matters related to aviation fuel quality control, operations and training across the entire supply and distribution system, from refining to aircraft refueling.

#### *Aviation fuel — safety and efficiency*

ICAO concluded a review of the fuel planning criteria that resulted in the development of proposed new SARPs in Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes* and guidance material in the *Flight Planning and Fuel Management Manual* (Doc 9976), which is expected to have an unprecedented positive impact on the safety and efficiency of air operations. The new provisions were ten years in the making and improve safety by providing a clear, common understanding of radio phraseology to be used in the event of a fuel-related situation. IATA estimated that the proposed new fuel provisions would result in a savings of over one million tonnes of fuel burned per year, representing a reduction of about three million tonnes in CO<sub>2</sub> and savings of more than USD 500 million annually.

### Dangerous Goods programme

#### *Improved safety for bulk transport of lithium batteries*

New safety requirements for the transport of lithium batteries by air were developed for inclusion in the 2013-2014 Edition of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284). The new requirements make many consignments of lithium batteries, which were previously exempt from most of the requirements of the Technical Instructions, subject to full regulation. Inherent in the revised document are requirements for training for many shippers transporting lithium batteries, inspections by operators of each package of lithium batteries prior to loading and stowage on an aircraft,

and notification to pilots of the presence, location and quantity of lithium batteries on board the aircraft.

*Collaboration with the Universal Postal Union (UPU) on improved safety for dangerous goods in airmail*

ICAO collaborated with the UPU to develop new provisions permitting lithium batteries contained in equipment to be sent by mail safely and legally. Designated postal operators (DPOs) wanting to accept lithium batteries will only be permitted to do so once they have received approval from the civil aviation authority (CAA) of their State. Approval will be based on a review by the CAA of the DPO's dangerous goods training programme and its procedures for controlling the introduction of dangerous goods in mail into air transport. The intent behind the new provisions is to encourage closer working relationships between civil aviation and national postal authorities and to improve systems for controlling the introduction of all dangerous goods in the mail, not just lithium batteries.

## **Training**

*Government Safety Inspector (GSI) courses*

The GSI Training Programme was developed to ensure quality and standardization in the training of government safety inspectors globally. Courses address shortcomings identified in audits conducted under the USOAP related to the lack of qualified technical personnel to carry out safety oversight responsibilities. ICAO coordinated and collaborated extensively with the United States FAA to update and revise the following GSI Training Courses: Air Operator and Approved Maintenance Organization Certification (GSI-AIR); Personnel Licensing (GSI-PEL); and Approved Training Organization Certification (GSI-ATO).

In September, ICAO organized an informal GSI Coordination meeting with the ICAO-endorsed GSI Training Centres to provide an update regarding the GSI programme, including proposed changes to enhance the administration and implementation of the programme. Among others is the development of a roster of ICAO-recognized instructors for GSI training intended to facilitate the use of instructors around the world.

*Dangerous Goods training*

A dangerous goods training course on using the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) was given in various States, and a new course on conducting dangerous goods inspections and investigations was developed.

### *Helicopter training and simulation*

A new Volume II of the *Manual of Criteria for the Qualification of Flight Simulation Training Devices* (Doc 9625-2) was published. The helicopter-focused methods, procedures and testing standards contained in Volume II are based on expert input from CAAs, experienced helicopter trainers, flight simulation training devices operators and manufacturers. Volume II contains internationally accepted criteria for the design, qualification and operation of flight simulation devices for rotary wing aircraft, with the aim of improving helicopter pilot training.

### *TRAINAIR PLUS Programme*

The new TRAINAIR PLUS Programme, established in line with the ICAO Training Policy, requires membership applicants to comply with assessment criteria and to successfully complete an on-site assessment. During 2012, ICAO conducted 25 assessments of new TRAINAIR PLUS applicants and, as of December, the Programme had 47 members, including nine full and 38 associate members. ICAO also established a TRAINAIR PLUS Steering Committee, composed of the nine full members, to assist in the further development of the programme and to cultivate effective contribution of members to the strategic planning of the TRAINAIR PLUS Programme.

A key focus for TRAINAIR PLUS members is the development of competency-based training. On this front ICAO developed the new ICAO Training Developers Course (TDC) for course developers and an ICAO manual entitled *TRAINAIR PLUS — Training Development Guide — Competency-based Training Methodology* (Doc 9941). More than 300 participants took part in 16 TDCs conducted by TRAINAIR PLUS members and ICAO.

### *Evidence-based recurrent training for pilots*

ICAO developed, in consultation with States, a proposed second amendment to the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868), planned for applicability in May 2013. It updates the qualifications of instructors and introduces provisions for the development and implementation of evidence-based training (EBT) programmes for flight crew members. The EBT provisions will apply to the recurrent training of pilots and will provide guidance on the development and evaluation of flight crew competencies to CAAs, operators and approved training organizations applying a competency-based approach. The proposed amendment is supported by the *Manual of Evidence-based Training* (Doc 9995), which is complemented by the *Evidence-based Training Implementation Guide* for operators and training organizations. The paradigm shift proposed under the EBT programme is not simply to replace a sometimes outdated set of critical events around which to build a training programme, but to use the training events as a vehicle for developing and assessing flight crew performance across a range of necessary competencies. In addition, EBT places instructor focus on the analysis of root causes of inappropriate actions by pilots.

*Next Generation of Aviation Professionals (NGAP)*

The ICAO NGAP Task Force advanced work on air traffic controller and air traffic safety electronics personnel competencies. Work on flight crew competencies continued in the newly formed International Pilot Training Consortium.

As part of the World Airline Training Symposium (WATS 2012), ICAO conducted two NGAP panel sessions and an informal meeting of the NGAP Task Force. The Organization continued to promote NGAP and raise the awareness of States, regional organizations, operators, the industry, training providers and organizations, and students to the challenges that will impact the future workforce of aviation professionals.

**Regional safety coordination***Regional arrangements for safety oversight including Regional Safety Oversight Organizations (RSOOs) — Development of new guidance on funding*

In a continuing effort to ensure sustainable operation of the RSOOs, ICAO developed new funding options not covered by existing ICAO policies and guidance on user charges. This issue was raised during the Symposium on RSOOs in October 2011. The new guidance, of which one key component is a passenger safety levy, will be published in the *Safety Oversight Manual, Part B — The Establishment and Management of a Regional Safety Oversight System* (Doc 9734, Part B).

*Review/study of the Civil Aviation Safety and Security Oversight Agency (CASSOA)*

A study was conducted on CASSOA to review the legal, organizational and financial frameworks of the agency. It resulted in recommendations for enhancing implementation of the CASSOA framework. CASSOA represents the five East African Community Partner States of Burundi, Kenya, Rwanda, United Republic of Tanzania and Uganda.

*Support for the African Civil Aviation Commission (AFCAC) in the implementation of the AFI Cooperative Inspectorate Scheme (CIS)*

ICAO remained actively involved in the cooperative inspectorate scheme in the AFI region (AFI-CIS) created in December 2010. The purpose of this programme is to share qualified inspectors within the region in a cost-effective and efficient way, so as to provide direct assistance to States in resolving safety deficiencies identified by ICAO's USOAP. The scheme is implemented by AFCAC, with the support of ICAO.

*Assistance to States — Development of tailored ICAO Plans of Action to improve safety*

To assist States in resolving safety deficiencies identified by the USOAP, ICAO developed State-specific tailored Plans of Action, proposing a set of comprehensive remedial actions relating to both technical and political aspects. By year end, ICAO had developed 24 Plans of Action which were subsequently accepted by States. To avoid duplication of efforts, the Plans take into account all assistance provided by other international entities such as the European Union, the United States Federal Aviation Administration (FAA), and the World Bank.

*Assistance to States — The Safety Fund (SAFE) and the Safety Collaborative Assistance Network (SCAN)*

To ensure continued assistance to States in resolving safety-related deficiencies, and pursuant to Assembly Resolution A37-16, ICAO established the Safety Fund, or SAFE. Participation in the fund is voluntary, and the fund is financially independent of the ICAO Regular Programme budget. Contributions can be made by ICAO Member States, international organizations, and public and private entities associated with international civil aviation.

During AN-Conf/12, ICAO convened a safety partnership meeting to promote the SCAN, created in 2010 to facilitate online-based communication for sharing information among donors and assistance providers in support of ongoing and future assistance projects in States. SCAN participants include focal points from governmental agencies, regional groups, manufacturers, financial institutions and international aviation organizations that provide financial and/or technical assistance.

*Assistance to States — Quality Assurance (QA) process for technical assistance projects — collaboration with the Technical Co-operation Bureau (TCB)*

To ensure that States benefit completely from assistance projects provided by ICAO's TCB, a QA concept was introduced for projects designed for States associated with ICAO Plans of Action. Throughout the lifespan of a project, a QA team consisting of subject-matter experts from ICAO's ANB, in cooperation with TCB, takes part in all phases of drafting, executing, monitoring and evaluating the project, to ensure its intended objectives are met and outcomes adequately delivered.

### **Activities of the Regional Offices**

The Regional Aviation Safety Groups (RASGs) held meetings in all regions, including a first one for the African and Indian Ocean region (AFI). RASGs have proven effective in promoting collaboration among States, regional organizations and industry to improve aviation safety in the regions.



Seminars and workshops were held on Fatigue Risk Management and English Language Proficiency.

The Regional Offices promoted the implementation of the ICAO Accident/Incident Reporting/European Co-ordination Centre for Accident and Incident Reporting Systems (ADREP/ECCAIRS) by States to collect and analyse incident data.

The Planning and Implementation Regional Groups (PIRGs) met in the Asia and Pacific, Middle East, African, European and North Atlantic regions. In the Caribbean and South American regions, GREPECAS held its first Programmes and Projects Review Committee meeting.

Implementation of PBN was actively supported, as were Continuous Descent Operation and Continuous Climb Operation.

Regional preparatory symposia were organized to assist States in preparation for AN-Conf/12.

### **Activities of particular importance in each Regional Office**

#### *Asia and Pacific (APAC) Office*

- Development of an Asia/Pacific Regional Seamless ATM Plan and its implementation in relation to ASBUs.

#### *Eastern and Southern African (ESAF) Office*

- Development, presentation and acceptance of ICAO Plans of Action to all States under the review of the MARB.
- Sustained intensification of the activities to assist States in resolving safety deficiencies through Regional Office Safety Team (ROST) missions and the deployment of the AFI-CIS.
- Successful resolution of SSCs identified in Madagascar, Mozambique, Rwanda and Zambia.
- Provision of technical support and establishment and operation of RSOOs and the Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAP) — Southern African Development Community (SADC).
- Support provided to the Ministerial meeting on aviation safety in Africa in the development of the declaration and establishment of the safety targets.
- Successfully facilitated discussions with South Sudan and Sudan on the re-delineation of the Khartoum Flight Information Region (FIR), review of associated ATS route trajectories and establishment of operational

procedures between Khartoum and Juba. Agreement reached on the FIR, the re-delineation details and modifications of associated ATS routes.

*European and North Atlantic (EURNAT) Office*

- Support was provided to the development of planning material and safety assessments to support a trial application of a 25 nautical mile lateral separation minimum, based on RNP 4, in the NAT region.
- Support was provided to the ongoing trial application of a 5 minute longitudinal separation minimum between ADS-C-equipped aircraft in the NAT Region, for the purpose of developing globally applicable provisions.
- Assistance was provided to Kazakhstan for the resolution of its SSCs and other findings identified during the USOAP audit of 2009. A project document was developed with TCB for long-term capacity building.
- Support was provided in order to exercise the Volcanic Ash Contingency Plan for the EUR and NAT regions and for the far Eastern part of the EUR Region.
- Development of key performance indicators/metrics in order to measure performance in the six key performance areas in the EUR and NAT Regions (Regional Performance Framework in line with the EC Performance Regulation) and development of guidance material.

*North American, Central American and Caribbean (NACC) Office*

- Conduct of ICVMs by the Regional Office and assistance with implementation of corrective action plans in Costa Rica, Honduras, Jamaica and Mexico resulting in significant reduction in the rate of Lack of Effective Implementation (LEI).
- Support was provided to States to optimize the ATS route network in the Gulf of Mexico based on RNP 10, 50 NM separation, and the Air Traffic Flow Management (ATFM) implementation in all FIRs of CAR Region.

*South American (SAM) Office*

- Implementation of an oceanic route requested for Ecuador to the Asia/Pacific Region for development of commercial traffic.
- Provision of support for the development of guidance material relative to the implementation of the flexible use of airspace concept, e.g. good practices in civil-military cooperation and a detailed study to optimize the SAM ATS route network.



- Coordination of the revision of the Action Plan for the implementation of ATFM at airports and the airspace of the Region.

*Western and Central African (WACAF) Office*

- Successful integration of the implementation of the AFI Regional Comprehensive Implementation Plan for aviation safety in Africa (AFI Plan) into the Regional Office's work programme of activities.
- Intensification of the activities of the ROST to assist States in eliminating safety deficiencies, which culminated in a significant reduction in the rate of LEI of States in the region, notably Mauritania.
- Presentation and acceptance of ICAO Plans of Actions by 10 States.
- Provision of technical support to other regional safety initiatives including the AFI CIS and the establishment and operation of RSOOs and COSCAPs.

**Technical cooperation projects and activities**

During 2012 there were 62 national and 25 regional active technical cooperation projects contributing to further improving aviation safety around the world. Major achievements over the period included:

*Africa-Indian Ocean (AFI) Region*

- continued assistance in the operations of the Banjul Accord Group Aviation Safety Oversight Organization (BAGASOO);
- continued assistance in the establishment of the Banjul Accord Group Accident Investigation Agency (BAGAIA);
- establishment of a personnel licensing system for a CAA;
- delivery of training of safety inspectors in the areas of aerodrome certification and safety, and flight safety for several States;
- delivery of in-country training in the area of transport of dangerous goods by air in one State;
- continued assistance for the development or review of primary civil aviation legislation for three States;
- development of draft civil aviation regulations in the areas of airworthiness, operations, personnel licensing and aerodromes for several States; and



- completion of the tender process and contract award for the procurement of secondary radars and ATM systems for 11 States.

*Asia and Pacific (APAC) Region*

- continued assistance to 24 States and SARs in the fields of safety oversight through three regional Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAP) and country projects towards resolution of SSCs, USOAP-identified deficiencies and other safety-related findings, as well as in the transition to the USOAP CMA, including inspector training and other safety-related training; short-term technical support from one State to another; participation in the Asia Pacific Regional Aviation Safety Team (APRAST) and Regional Aviation Safety Group (RASG), the ICAO Regional Runway Safety Seminar and the Association of Asia Pacific Airlines Seminar;
- continued assistance to 19 States and SARs in the field of aviation medicine through the Co-operative Arrangement for the Prevention of Spread of Communicable Diseases through Air Travel (CAPSCA) through seminars and on-the-job training in pandemic preparedness planning and airport evaluations on the subject including a half-day training session on “CAPSCA Assistance Visit” for Technical Advisors, followed by a demonstration of a “CAPSCA Airport Assistance Visit”;
- assistance to 18 States and SARs with improvement of flight procedures through preparation of documents and training courses in the areas of Procedures for Air Navigation Services — Aircraft Operations, PBN flight validation and implementation, as well as airspace and procedure design;
- enhancement of the safety oversight capability in the areas of aerodromes, flight safety and air navigation services for one CAA;
- revision of civil aviation regulations and procedures for the Directorates of Airports, Air Navigation, Airworthiness and Operations in one State;
- delivery of training to 308 national personnel of several States in the areas of doppler very high frequency omni range (DVOR) maintenance, electronic safety tools, Global Navigation Satellite Systems (GNSS), radar approach control, Safety Management Systems (SMS), safety oversight, aviation law, management and policy, through the Developing Countries Training Programmes of four States;
- conduct of a study to develop a long-term roadmap for the development of general aviation and commercial air services using smaller aircraft and helicopters for one State;

- delivery of two SMS courses for 14 participants from seven South Pacific Island States and 30 participants from the Airport Authority in one State;
- conduct of a study on the impact of a proposed high-density/high-rise building development on the safety and regularity of operations of the principal international airport and nearby aerodromes in one State; and
- delivery of an Airport Master Planning Course for 30 participants from an airport authority in one State.

*Caribbean and South American (CAR/SAM) Region*

- procurement of instrument landing system/distance measuring equipment (ILS/DME) for one State;
- procurement of firefighting vehicles for one State;
- procurement of automatic dependant surveillance (ADS)/controller pilot data link communication (CPDLC) systems for one State;
- provision of aircraft inspection, maintenance, repair and overhaul training for the certification of technical personnel of one State;
- assistance to one State in the establishment of an aircraft maintenance programme;
- assistance in the institutional strengthening and restructuring of the CAA of one State;
- procurement of a computer-based radar simulator for one State;
- procurement and integration into the Air Traffic Control (ATC) Centre of primary and secondary radars and communications systems for one State;
- procurement of very-high frequency (VHF), ultra-high frequency (UHF) and high-frequency (HF) equipment, computers, weather stations and emergency location beacons for one State;
- procurement of spare parts and services for general overhaul and integral maintenance of several aircraft in one State;
- development of a Master Plan for one international airport;
- provision of inspector training in the areas of flight safety and aerodromes to national personnel of five States;

- signature of a multilateral cooperation agreement for mutual acceptance of maintenance organizations among CAAs of nine States;
- contract award for the design and construction of a remote cargo apron and related facilities and provision of ancillary and auxiliary equipment for one State; and
- provision of aeronautical information services (AIS) for one State.

*Europe and Middle East (EUR/MID) Region*

- assistance to one State in the areas of safety oversight (flight operations), ATM, aviation medicine and personnel licensing;
- continued assistance to one State to enhance its capability in flight operations, airworthiness, aviation accident and incident investigation, CNS/ATM, airports, rescue and firefighting (RFF) and human resources training;
- continued assistance to one State to enhance its oversight capability in flight operations;
- conduct of safety assessment missions in two States to evaluate and determine compliance of runways with ICAO SARPs;
- provision of advanced training in threat and error management in air traffic control;
- support to the Corrective Action Plan of one State and capacity building to rectify Significant Safety Concerns;
- capacity building assistance to one State in the area of ATM; and
- conduct of an assessment mission in one State to identify priority requirements for the development of a Civil Aviation Master Plan and the restructuring of the CAA.

## **Strategic Objective B: SECURITY**



# SECURITY

During 2012, ICAO took major steps to strengthen the global aviation security framework. The Organization held its first global conference on aviation security in a decade, approved plans for the evolution of the Universal Security Audit Programme (USAP) to a more comprehensive, proactive and risk-based continuous monitoring approach (CMA), and emphasized assistance with a focus on the implementation of State improvement plans and enhanced partnerships with donors and regional bodies.

## **High-level Conference on Aviation Security**

In order to follow through on the 37th ICAO Assembly Declaration on Aviation Security, a series of high-level regional conferences (begun in 2011 with conferences in India, Senegal and the Russian Federation) was completed in 2012 with events held successively in Malaysia, Venezuela (Bolivarian Republic of) and Bahrain. The six conferences, hosted by States in collaboration with ICAO, covered all regions and succeeded in generating closer cooperation among States and other stakeholders in resolving security concerns. In all cases they adopted joint statements that reflected the realities and concerns of each region and called for concrete steps to collectively and individually strengthen aviation security in accordance with the Assembly Declaration.

The positive results of the regional conferences laid the foundation for the first ICAO High-level Conference on Aviation Security (HLCAS) since 2002. The intent was to address vulnerabilities and close gaps in the global aviation security framework, particularly with regard to air cargo. The more than 700 participants representing 132 Member States and 23 international and regional organizations included 24 Ministers, demonstrating the critical importance that States attach to aviation security. This sent an unequivocal signal to the world that ICAO, its Member States and other stakeholders consider threats to civil aviation as a matter of the highest priority.

Overall, the HLCAS strengthened the global aviation security framework by moving forward on all contemporary strategic issues. The consensus achieved on aviation security and facilitation suggests that the policy proposals to be presented to the 38th Session of the Assembly will be relevant and timely.

## **Strengthening and harmonizing security approaches**

ICAO expedited the adoption of security SARPs to mitigate risk to cargo and mail. The new and revised provisions are contained in Amendment 13 to Annex 17 —

*Security.* They advance the implementation of supply chain security systems, common baseline security measures for both passenger and cargo aircraft, and streamlined procedures for identifying and securing high-risk cargo and mail.

Amendment 13 is set to become applicable as of July 2013 and features a revised comprehensive Standard for the screening of persons other than passengers — the “insider threat”. Concerns about the potential menace posed by airport and other aviation personnel were a major factor in the decision to adopt Amendment 13 on a fast-track basis.

During its 23rd meeting in March, the Aviation Security Panel agreed on a new mandate for its Working Group on Air Cargo Security. Included is a requirement for drafting principles to enhance security at the global level and in a practical manner. A second requirement is to work closely with other international entities so as to better align cargo security policies, standards, measures and guidance material. In a related development, a set of outcome-based key principles on air cargo and mail security was embraced by the HLCAS as a comprehensive framework for guiding ICAO and other stakeholders in efforts to secure the air cargo and mail supply chain.

Highlighting the importance of a risk-based approach to dealing with security threats, ICAO published the first edition of the global Risk Context Statement. This living document will be issued periodically to provide States with a robust methodology for further developing their own national risk assessments. In addition, an Aviation Security Panel Working Group was tasked with the development of a forward-looking trend analysis document to help ICAO and the aviation security community be more proactive in addressing and mitigating threats.

Elsewhere, ICAO worked closely with States, industry and international organizations to generate greater synergy among aviation, customs and postal security activities. To improve regulatory harmonization, ICAO and the World Customs Organization (WCO) agreed to collaborate more intensely on specific priorities relating to cargo security and facilitation. One area singled out was the need for greater exchange of information on cargo shipments, in particular by using advance cargo information. The agreement was reached at the Joint Conference on Enhancing Air Cargo Security and Facilitation organized by Singapore, the WCO and ICAO.

Still on the collaboration front, ICAO supported efforts by the Universal Postal Union (UPU) to develop new air mail security standards that complement the existing ICAO Standards and take account of emerging security concepts. As a result, the UPU adopted resolutions on air mail security standards at its 25th Congress in October and amended the Universal Postal Convention with an article on aviation security.

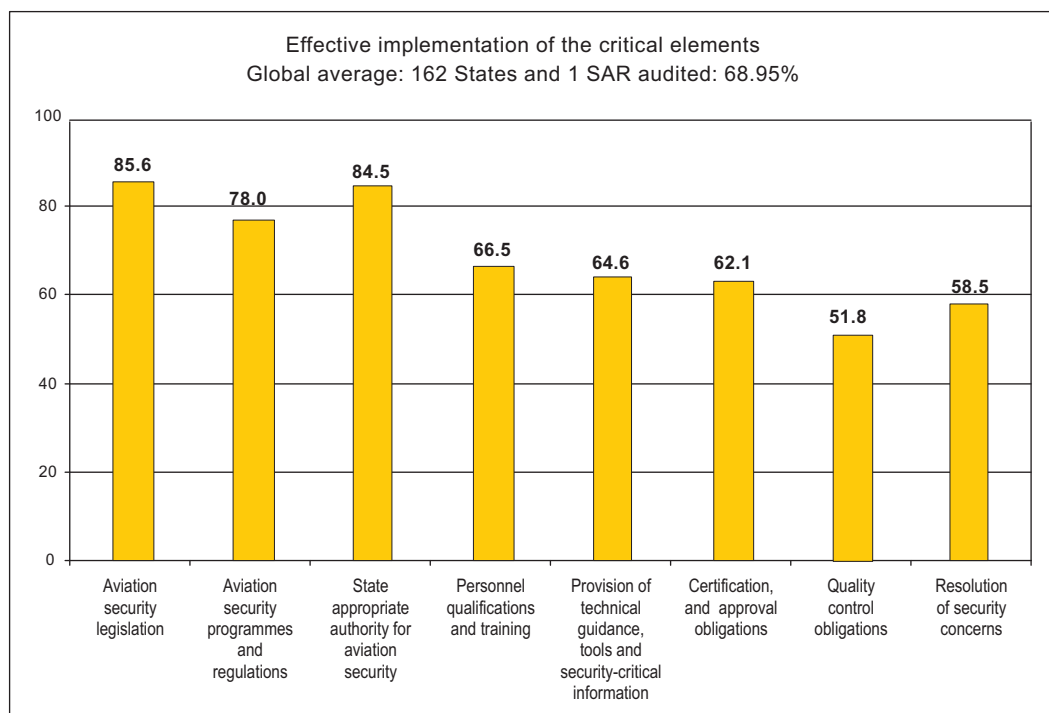


### Implementation and evolution of the Universal Security Audit Programme

ICAO completed 34 audits in 2012 under its USAP, bringing the total number of second-cycle audits to 163 (162 Member States and one SAR). Figure 5 shows global audit results as they relate to the implementation of the critical elements of an aviation security oversight system.

USAP was established in 2002 and is an integral part of the Organization's Comprehensive Aviation Security Strategy. The second cycle of audits was launched in January 2008 and is scheduled for completion in 2013. It focuses on identifying aviation security concerns in ICAO Member States, making recommendations for their resolution and providing on-site assistance.

A USAP Auditor Training and Certification Course was carried out in Montréal, and USAP auditors participated in four joint missions with the Implementation Support and Development — Security (ISD-SEC) Section to Comoros, Congo, Democratic Republic of the Congo and Haiti. An auditor also acted as an observer during a United Nations Counter-Terrorism Directorate mission to the Russian Federation. One ICAO Coordinated Validation Mission validated actions taken by a State to resolve its Significant Security Concerns (SSeCs). Over the course of the year, seven SSeCs involving four States were posted to the USAP secure website. By year end there remained nine unresolved SSeCs in five States.



**Figure 5. Global audit results — level of implementation of the critical elements of a security oversight system**

Looking ahead, the Council formally approved the evolution of the USAP to a CMA and the associated transition plan. The transition will take place through 2013 and 2014, with full-scale implementation of the USAP-CMA beginning on 1 January 2015.

### **Facilitation of Air Transport**

The Council adopted Amendment 23 to Annex 9 — *Facilitation*, the Annex that contains SARPs on customs, immigration, health and quarantine border control regulations. The Amendment focuses on Appendix 13 to Annex 9 and is intended to enhance data sharing and efficient responses to a pandemic or large-scale epidemic.

The seventh meeting of the Facilitation Panel (FALP/7) held in Montréal in October recommended amendments to Annex 9 concerning a wide range of issues, including accessibility to air transport for persons with disabilities, air cargo facilitation, the security of the travel document issuance process and utilization of Advance Passenger Information and Passenger Name Record data systems.

FALP/7 established a working group to develop new guidance material for a model National Air Transport FAL Programme, and to revise and improve existing guidance material. The documentation presented at the meeting can be consulted at [www.icao.int/Meetings/FALP/Pages/FALP7-2012.aspx](http://www.icao.int/Meetings/FALP/Pages/FALP7-2012.aspx).

The Panel also endorsed the first edition of a *Manual on Access to Air Transport by Persons with Disabilities* (Doc 9984) which is an updated and revised version of existing guidelines. The manual was originally created for the purpose of elaborating on the relevant SARPs in Annex 9; it covers all the aspects of the journey of a person with disabilities.

### **International assistance and cooperation**

Under ICAO's Aviation Security Assistance and Capacity Building Strategy, a number of significant actions were taken to support States in their ongoing efforts to create more robust national security systems and procedures.

Through its ISD-SEC Programme, the Organization sharpened its assistance focus with more targeted support to States in the implementation of Annex 17 SARPs and the security-related provisions of Annex 9. This involved the development and use of a prioritization methodology.

ISD-SEC continued to apply a project management framework to deliver assistance, with distinct phases and established milestones. The aim is to ensure quality control for the duration of the assistance projects, through activities such as the review of AVSEC programme documents.



Over the past year, 16 in-depth, long-term assistance and capacity-building projects were initiated worldwide. Among them were critical AVSEC initiatives in Eastern and Southern African, and Western and Central African regions. This enabled a number of States to improve significantly their ability to implement Annex 17 provisions.

In other areas, ISD-SEC continued to expand its assistance activities through partnerships with States and regional organizations. Such partnerships are essential in coordinating capacity-building assistance in order to maximize resources and avoid duplication. ISD-SEC also works closely with TCB to enhance coordination of ICAO assistance across all regions, specifically through the referral of subject-matter experts and technical review of security programmes and documentation.

Again with TCB, ISD-SEC established the Cooperative Aviation Security Programme (CASP) for the Middle East Region (MID). In line with the CASP Asia Pacific (AP), the CASP-MID aims at compliance with international AVSEC conventions, security-related ICAO SARPS and guidance material. It creates a regional structure for cooperation and coordination in aviation security matters and for the training of aviation security personnel. CASP-MID will come into effect for participating States in January 2013.

ISD-SEC further engages in partnerships with regional organizations such as the African Civil Aviation Commission (AFCAC), the Arab Civil Aviation Commission (ACAC) and the CASP-AP in the provision of aviation security training, complementary to that made available through the Aviation Security Training Centre (ASTC) network.

### **Aviation security training**

Aviation security training is based primarily on the guidance material contained in the ICAO *Aviation Security Manual*. In order to reach a wide international and regional audience, however, ICAO provides oversight of a network of 23 endorsed ASTCs worldwide, which delivered 37 ICAO-sponsored courses and workshops. Course topics range from basic level aviation security to entry level management, while the workshops cover various national AVSEC programmes.

In response to the growing demand for aviation training, 24 additional instructors from six regions were certified, increasing the total number to 235. ICAO encouraged States to make use of the Aviation Security Training Packages as a part of their national training programme.

ICAO continues to support the Aviation Security Professional Management Course, in collaboration with the John Molson School of Business at Concordia University in Montréal. The course helps aviation security managers develop management skills and aviation security knowledge crucial in today's demanding aviation security regime.

**Machine Readable Travel Document (MRTD) Programme**

The main thrust of capacity-building efforts for MRTDs took the form of assistance projects for States that were unable to meet the 1 April 2010 deadline for the mandatory introduction of ICAO-compliant Machine Readable Passports (MRPs), as well as for those having decided to upgrade passport issuance to ePassports.

Regional seminars on biometrics and border security were held in Brazil and Zimbabwe in 2012. These seminars promoted best practices related to secure passport issuance and border control systems, while emphasizing the importance of issuing ICAO-compliant MRPs and participating in the ICAO Public Key Directory (PKD).

Two workshops on travel document security and identity management were organized in Panama and in Antigua and Barbuda for Central American and Northern/Western Caribbean government officials from diverse agencies.

As for the ICAO PKD, it grew to 35 participants with the addition of Argentina, Malaysia, the Russian Federation, Spain and the United Nations as new members.

ICAO actively promoted PKD membership through workshops conducted at its annual worldwide MRTD symposium and regional MRTD seminars. These events outlined the security and trustworthiness benefits of ePassports. An initiative known as PKD Border Day, organized by the United Kingdom with support from ICAO, was offered to border control agencies implementing or planning to implement border control systems for eMRTDs. Also participating were issuing authorities that need to guarantee the worldwide authentication of their travel documents.

**Activities of the Regional Offices**

The Regional Offices supported Headquarters in the organization of AVSEC training courses in the regional ASTCs. They also conducted States' aviation security needs assessment missions and implemented State Improvement Plans to assist States to carry out USAP Corrective Action Plans.

The implementation of the MRTD programme and other aviation security components of Annex 9 to enhance border security standards were actively promoted with the collaboration of Regional Offices.

**Activities of particular importance in each Regional Office***Asia and Pacific (APAC) Office*

- Establishment of the Regional Aviation Security Coordination Forum to be held annually in conjunction with the Conference of Directors General of Civil Aviation of the APAC Region;
- A newly recruited Regional Officer AVSEC participated in security-related fora and facilitated the establishment of the Regional Aviation Security Coordination Forum.

**Technical cooperation projects and initiatives**

During 2012, there were 19 national and two regional active technical cooperation projects which assisted civil aviation administrations and international airports to improve their security systems. Major achievements over the period included:

*Africa-Indian Ocean (AFI) Region*

- assessment of the organizational structure and responsibilities of the national Aviation Security Inspectorate Unit in one State;
- development of duties and responsibilities for national AVSEC inspectors in one State; and
- delivery of AVSEC training to national personnel of two States.

*Asia and Pacific (APAC) Region*

- continued assistance to 24 States and SARs in the field of aviation security through the regional Co-operative Aviation Security Programme (CASP), including technical assistance to Member States and administrations with rectification of USAP-identified deficiencies and other aviation security related findings, and provision of inspector training and other security related training;
- provision of aviation security inspector training and other security related training under the CASP, including an Aviation Security Legal Awareness Seminar, a Screener Certification Programme Workshop and Advanced AVSEC Screener Training to national personnel of participating States; and
- delivery of Aviation Security courses and of workshops on Crisis Management in Aviation Security under the Developing Countries Training Programmes of three States.

*Caribbean and South American (CAR/SAM) Region*

- provision of consultancy services to two States in the implementation of MRTD systems;
- procurement of systems and equipment for boarding passes and bar code readers for one State;
- installation of protection equipment for radars and a security perimeter fence for one State;
- continued assistance to one State to enhance its aviation security human resource capabilities through the training of technical and operational personnel; and
- procurement of a Flight Information Display System and associated equipment and services, including installation, commissioning and training, for one State.

*Europe and Middle East (EUR/MID) Region*

- development of draft legislation for one State for the establishment of the National Facilitation (FAL) Programme pursuant to Annex 9 to the Chicago Convention.

**Strategic Objective C: ENVIRONMENTAL  
PROTECTION AND  
SUSTAINABLE DEVELOPMENT  
OF AIR TRANSPORT**



# ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT OF AIR TRANSPORT

## ENVIRONMENTAL PROTECTION

ICAO's environmental work focused largely on requests from the 37th Session of the Assembly and advances made by the Council's Committee on Aviation Environmental Protection (CAEP).

Also significant were assistance to States and capacity building, the maintenance and upgrade of environmental tools, enhanced cooperation with other United Nations bodies, various climate change initiatives and outreach activities — all designed to move international aviation closer to a sustainable future.

### The 37th Session of the ICAO Assembly

Substantial progress was made in four key areas identified in Assembly Resolution A37-19: 1) global aspirational goals; 2) States' action plans; 3) sustainable alternative fuels for aviation; and 4) market-based measures.

### Global aspirational goals

The Secretariat cooperated with CAEP to further update the CO<sub>2</sub> trends assessment. The methodology involved estimating the potential impact of various categories of mitigation measures — aircraft-related technology development, improved ATM and infrastructure use, more efficient operations and sustainable alternative fuels — in order to measure current, and estimate future, progress toward the achievement of global aspirational goals. The Secretariat is also developing a capability, known as the ICAO CO<sub>2</sub> Reporting and Analysis System (ICORAS) that will allow the Organization to respond to an Assembly request to regularly report CO<sub>2</sub> emissions from international aviation to the United Nations Framework Convention on Climate Change (UNFCCC) as well as to measure progress being achieved toward the global aspirational goals.

The Secretariat continued to compile and interpret data contained in States' action plans to determine a global figure that will be integrated with the CO<sub>2</sub> trends assessment being prepared by CAEP for the period of 2010 to 2050. The intent behind the assessment is to support the review by the Council of the medium-term global aspirational goal and exploration of a long-term global aspirational goal for international aviation, as requested by the Assembly.

**States' action plans on CO<sub>2</sub> emissions reduction activities**

By the end of the year, 54 Member States representing 75.45 per cent of international air traffic had submitted to ICAO their national action plans to reduce CO<sub>2</sub> emissions from international aviation. The information contained was analysed on an ongoing basis, and areas of implementation support were identified. The option of joint action plans involving groups of States was explored.

The Assembly decision on the voluntary submission of action plans by States led the Organization's policy outlook to a more action-oriented implementation mode.

**Sustainable alternative fuels for aviation**

The Secretariat intensified its efforts to promote and facilitate the development and deployment of sustainable alternative fuels for aviation.

Leading up to the United Nations Conference on Sustainable Development (Rio+20 Conference) in June, ICAO cooperated with industry stakeholders on a series of four connecting flights from Montréal to Rio de Janeiro, all powered by sustainable alternative fuels.

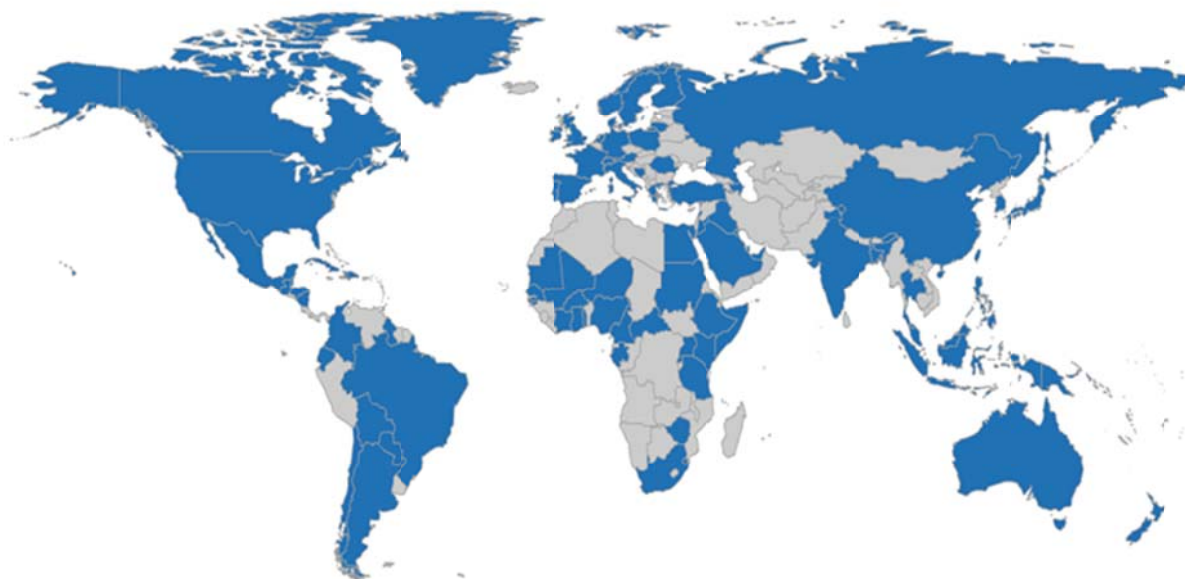
An ICAO group of experts worked on developing a set of policy recommendations relating to sustainable alternative fuels, based on existing policies and measures, as well as current initiatives and best practices by States and organizations.

**Market-based Measures (MBMs)**

The 37th Session of the ICAO Assembly agreed on the development of a framework for MBMs and decided to explore a global MBM scheme for international aviation.

With support provided by the experts nominated by Member States and international organizations, the Secretariat undertook intensive work aimed at developing a global solution relating to MBMs. In June, the Council agreed to concentrate its efforts on three options for a global MBM scheme. It also agreed that further work was required in the development of the framework for MBMs.

In November, the Council agreed on the establishment of a High-level Group on International Aviation and Climate Change to develop recommendations on a series of policy issues related to international aviation and climate change, including those related to MBMs, and to report on progress concerning a proposal for the 2013 Assembly Resolution.



**Figure 6. ICAO hands-on workshops trained 91 Member States (in blue), representing 93 per cent of global traffic**

#### **Assistance to States and capacity building**

ICAO put forward a robust capacity building strategy to assist States in developing and implementing their action plans for reducing CO<sub>2</sub> emissions from international aviation.

Among the specific items were guidance material and an interactive web-interface. Hands-on training workshops initiated in 2011 were continued this year, with a total participation for the two years of 91 Member States representing 93 per cent of global international air traffic.

A well-attended ICAO seminar entitled “Assistance for Action — Aviation and Climate Change” held in Montréal, in October, covered a wide range of topical issues, from capacity building and new technologies to sustainable alternative fuels, financing for emissions reduction initiatives and technology transfer and technical support.

The Seminar emphasized the synergies and constructive engagement between ICAO, its Member States, stakeholders and other international organizations in the initial planning phase of the action plans programme. The second phase will focus on further supporting States with their plans.



### **Committee on Aviation and Environmental Protection (CAEP)**

CAEP made important progress toward the completion of its work programme relative to its Ninth Meeting (CAEP/9) where discussions will centre on further developing technical measures to reduce and limit the impact of aviation on the environment.

#### **Development of new CO<sub>2</sub> certification Standard**

In July, the CAEP Steering Group meeting unanimously agreed on a CO<sub>2</sub> metric system that characterizes CO<sub>2</sub> emissions for various aircraft types and the technologies they use. The CO<sub>2</sub> metric system factors in fuselage geometry, maximum take-off weight and fuel burn performance for three different cruise conditions.

Agreement on the CO<sub>2</sub> metric system allowed CAEP to move on to the next stages in the development of an aircraft CO<sub>2</sub> Standard, namely the definition of certification procedures to support the agreed metric system and the Standard's scope of applicability. This is a prerequisite to an appropriate regulatory limit for the aircraft Standard to be analysed, using the ICAO criteria of technical feasibility, environmental benefit, cost effectiveness and the overall impacts due to interdependencies.

#### **Particulate Matter (PM)**

CAEP continued to actively pursue its research on non-volatile and volatile PM. A test site with the first prototype PM measurement system, permanently installed in an aircraft engine test cell, was established in Switzerland. CAEP also continued to cooperate closely with the SAE E-31 (a working group on Aircraft Exhaust Emissions Measurement Committee of SAE International) on evaluating and documenting PM measurement methodologies. The long-term objective is to develop a non-volatile PM certification requirement. In the meantime, CAEP moved ahead with developing a PM Standard, including the Standard's applicability.

#### **Aircraft noise**

CAEP conducted a further round of environmental and economic assessments on future noise stringency options. They include the maximum noise level contained in Annex 16, Volume I, Chapter 4 minus 3, 5, 7, 9 and 11dB cumulative, with potential implementation years of 2017 and 2020. All the stringency options of minus 3, 5, 7, 9 and 11dB cumulative will remain open for consideration by the CAEP/9 meeting.

### **Aircraft operations**

New chapters for guidance material designed to replace the ICAO circular *Operational Opportunities to Minimize Fuel Use and Reduce Emissions* (Cir 303) were developed and endorsed by the CAEP Steering Group, for presentation to the CAEP/9 meeting. The Steering Group also endorsed the revised and largely completed guidance material on conducting CNS/ATM environmental assessments, referred to as “Environmental Assessment Guidance for Proposed Air Traffic Management Operational Changes”.

### **Apps for ICAO Carbon Emissions and Green Meetings Calculators**

ICAO developed and launched applications for iPhone, iPad and Android devices of its Carbon Emissions and Green Meetings Calculators. The ICAO Carbon Emissions Calculator, created in 2008, computes the carbon footprint of a flight. The Green Meetings Calculator generates an optimal location for a meeting in terms of CO<sub>2</sub> emissions from air travel, taking into consideration the city of origin, the number of participants and other pertinent parameters. It is used worldwide by all UN agencies and the general public. The smartphone applications, the first ever developed by ICAO, are available online free of charge in the Apple and Google Play stores.

### **Cooperation with other United Nations bodies**

As part of its ongoing close cooperation with UN bodies involved in environmental protection, ICAO took part in five major meetings, including the UNFCCC conferences in Bangkok and Doha in December.

ICAO submitted a report and provided a statement to the 37th Session of the UNFCCC Subsidiary Body for Scientific and Technological Advice outlining recent developments with respect to international aviation and climate change.

### **ICAO's carbon inventory and climate neutral initiative**

As part of the UN initiative to achieve climate neutrality throughout the UN system, ICAO updated its carbon inventory and estimated the Secretariat's carbon footprint for 2011 using the United Nations Environment Programme's (UNEP) greenhouse gas emissions calculator, as well as the ICAO Carbon Emissions Calculator. The total carbon footprint was approximately 6 000 tonnes of CO<sub>2</sub> emissions, with staff air travel accounting for 40 per cent, and energy and electricity accounting for 54 per cent.

ICAO also participated in the meetings of the UN Issue Management Group on sustainability management and continued to provide support and training to other UN organizations in the development of tools and guidelines for the preparation of aviation-related greenhouse gas emissions inventories.

### **Outreach and public awareness activities**

A video highlighting aviation's contribution to the economic, social and environment pillars of sustainable development was produced. It showcased progress by ICAO on key environmental issues.

Press briefings, exhibition booths and side events were also organized by ICAO on the occasion of the 18th Conference of the Parties (COP18) and Rio+20 Conference.

For the Rio+20 Conference, ICAO released a booklet entitled "Global Aviation and our Sustainable Future". It addressed aviation's role relative to the themes of the Rio+20 Conference, detailed its initiatives and achievements across the sustainable development agenda, and summarized its collaborative efforts with UN agencies and other stakeholders. A full report was published on the first time ever series of connecting flights powered by sustainable alternative fuels which brought part of the ICAO Delegation to Rio de Janeiro.

The Organization also participated in numerous presentations, information sessions and outreach activities around the world, using an assortment of banners, brochures, reports, leaflets and multimedia.

### **Voluntary support for ICAO's environmental work**

The European Union, France and Italy maintained their support for ICAO's work in the environmental area with the secondment of three Environmental Officers and one Junior Professional Officer.

## **SUSTAINABLE DEVELOPMENT OF AIR TRANSPORT**

### **Actions requested by the 37th ICAO Assembly**

ICAO continued to monitor developments regarding consumer protection, in line with Assembly Resolution A37-20 which states that consumer interest should be given due regard in the development of policy and regulation of international air transport.

In particular, the Summary of Consumer Protection Rules, which analyses and references both regulations and airline voluntary commitments in the field of passenger rights, was updated in order to enlarge its geographical coverage. Specific consumer protection references were added for Asia/Pacific, Europe, the Middle East and North America.

The monitoring process confirmed the general trend, previously observed, towards the introduction of regulatory mechanisms aimed at protecting airline passengers, most notably in the United States and Europe. Other States were noted to have addressed consumer protection matters without imposing sector-specific regulation.

### **Aviation frequency spectrum**

Aeronautical CNS functions are critical to the safety and efficiency of aircraft in flight and require interference-free access to a sizable portion of the available radio frequency spectrum. International provisions for frequency spectrum management are updated during World Radiocommunication Conferences (WRCs) held by the International Telecommunication Union (ITU) every four years. WRC-12 was held from 23 January to 17 February. In general, the conference results conformed to the ICAO Position. Major factors contributing to this achievement included early awareness and involvement of Member States in the development of the ICAO Position for the ITU WRC and active participation by ICAO experts in the preparatory activities of ITU and regional telecommunication organizations (APT-Asia Pacific Telecommunity, ATU-African Telecommunications Union, CEPT-European Conference of Postal and Telecommunications Administrations, CITELE-Inter-American Telecommunication Commission), as well as during the conference itself.

Preparatory activities for WRC-15 (2015) are under way. A draft ICAO Position on the aviation-relevant agenda items to be addressed at WRC-15 was developed and disseminated to States and international organizations for comments.

### **Aeronautical information management (AIM)**

ICAO developed a significant amendment to Annex 15 — *Aeronautical Information Services*, which is the first part of a two-part process to fully restructure the Annex. The restructuring is designed to support the transition of the operational focus of aeronautical information services from a product-centred, paper-based and manually-transacted system to a digitally-enabled, network-centred and service-oriented information management system. ICAO also integrated AIM into the ASBU framework and developed a longer-term vision for AIM to fully support system-wide information management.

Several ICAO regions conducted AIM-related meetings or seminars, and all regions stepped up efforts to ensure that States were implementing the roadmap for the transition of aeronautical information service (AIS) to AIM.

**Efficiency of aviation operations and issues limiting sustainable development of global civil aviation**

A survey was conducted jointly by ICAO and ACI to estimate present and future trends in anticipated traffic and planned capacity at airports, in order to identify potential bottlenecks. Results pointed to increasing airport capacity constraints from 2015 onwards. This projection clearly calls on States to give due consideration to the planning and development of aviation infrastructure to efficiently meet future air travel demand.

**Preparing for the Sixth Air Transport Conference**

In April, an ICAO Air Transport Symposium held at Headquarters identified major impediments to sustainable air transport, strategies to overcome them and tools to support implementation. The objective of the event, organized in partnership with the Air Transport Research Society, was to lay the groundwork for the Sixth Air Transport Conference (ATConf/6) in 2013.

For its part in the preparatory process, the Air Transport Regulation Panel in June discussed ways to tackle the key issues under the ATConf/6 agenda, while continuing to provide advice and assistance to the Secretariat leading up to the Conference.

A series of regional seminars held in all ICAO Regions, in cooperation with regional organizations and ICAO's Regional Offices, briefed States on the major issues to be addressed by ATConf/6 and fostered an exchange of views among participants, with the objective of reaching common regional positions on the agenda items.

**Facilitating air services negotiations**

The fifth ICAO Air Services Negotiation Conference in Jeddah attracted more than 350 delegates from 62 States, and four international organizations. Some 350 formal and informal bilateral meetings were held, leading to the signing of a record number of more than 130 bilateral air services agreements and arrangements.

**Infrastructure management**

The Ninth Edition of *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082) was published. The proper application of the key charging principles contained in Doc 9082 — non-discrimination, cost-relatedness, transparency and consultation with users — facilitates the sustainable development of airport and air navigation infrastructure.

ICAO continued to update the case studies on Commercialization, Privatization and Economic Oversight of Airports and Air Navigation Services Providers (ANSPs) and released a new *Manual on Privatization of Airport and Air Navigation Services* (Doc 9980).

Based on the *Tariffs for Airports and Air Navigation Services* (Doc 7100), the new online “Aeronautical Charges” product was updated to list airport and air navigation service charges levied in 184 States.

In the field of training, two courses on airport user charges were conducted under the Airport Management Professional Accreditation Programme, developed jointly by ICAO and ACI. They were attended by 48 participants from 17 States.

### **ICAO statistics programme, forecasting activities and economic analysis**

#### *ICAO statistics programme*

Three on-the-job training sessions on statistics were conducted at ICAO Headquarters to support the implementation of the recommendations of the Tenth Session of the Statistics Division meeting. They provided a number of African, Latin American and Arab States with practical experience in applying statistical methods and filling statistical forms. Emphasis was placed on the newly implemented fuel data collection by air carrier (ICAO statistical form M) that enables the measurement of fuel efficiency progress.

Phase 1 of the ICAO CO<sub>2</sub> Reporting and Analysis System was completed, in line with Assembly Resolution A37-19. The purpose of the measurement tool is to enable the reporting of international aviation CO<sub>2</sub> emissions to the UNFCCC and to assess progress in reaching global environmental aspirational goals.

#### *ICAO statistical online platform*

The statistical online platform, ICAO DATA+, was updated and enhanced with a global comparative aviation data tool that meets the high standards for data distribution required by Member States, regional civil aviation organizations and external users. Six modules of the user friendly ICAO DATA+ are now available: air carrier traffic; traffic by flight stage; air carrier finances; airport traffic; on-flight origin and destination; and air carrier fleet and personnel. ICAO DATA+ may be consulted at [stats.icao.int](http://stats.icao.int).

#### *Forecasting activities*

Work began on a new circular entitled *Global Air Transport Outlook to 2030 and trends to 2040* (Cir 333). It summarizes the latest and most expansive passenger and freight traffic forecasts ever produced by ICAO. Designed to help regulators and the aviation industry respond to evolving passenger and shipper needs over the next 20 years or so, the publication also includes forecasts of corresponding

aircraft movements and extended global forecasts of passenger and cargo traffic to 2040 in support of greenhouse gas analyses. This unique document benefits from an expanded system of routes and more sophisticated econometrics techniques, the worldwide expertise of ICAO and the extensive data provided by ICAO's Member States; in short, the most advanced techniques and the timeliest information. It further contains various market trends and analyses, taking into account economic growth, technological change, market liberalization, the growth of low-cost carriers, airport congestion and oil prices, among others. Finally, the circular examines the major factors that promote or impede the growth of civil aviation and how they influence the resulting forecasts.

The Asia/Pacific Area Traffic Forecasting Group (APA TFG) developed traffic and aircraft movement forecasts as well as other planning parameters, such as peak period analyses of FIR data on selected route groups. These forecasts and analyses, contained in the Report of the APA TFG Sixteenth Meeting, are expected to be used primarily by ICAO Member States concerned, the air navigation services providers in the Asia/Pacific and trans-Pacific markets and the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) in their planning activities of air navigation services.

Similarly, the ninth meeting of the Caribbean/South American Traffic Forecasting Group (CAR/SAM TFG) produced long-term air traffic forecasts for major route groups to, from and within the Caribbean and South American regions, in terms of both passengers and aircraft movements. Included is a breakdown of movement forecasts at city-pair level for all major route groups, together with peak-period parameters and analyses of the Central American Corporation for Air Navigation Services (COCESNA) FIR. These forecasts and analyses, contained in the Report "Caribbean/South American Regional Traffic Forecasts 2011-2031", will be of particular interest to ICAO Member States, the air navigation services providers in the Caribbean/South American markets and by the Caribbean/South American Regional Planning and Implementation Group (GREPECAS) in their regional planning activities of air navigation services.

#### *Economic analysis*

Studies conducted on regional differences in international airline operating economics augmented an already exceptional source of data and information for various essential tasks, including analysis of airline operating economics, evaluation of the impact of regulatory change, and environmental planning. They also formed the basis for an analysis delivered to the IATA Prorate Agency in order to calculate factors to prorate passenger revenues from interline journeys by the Agency.

#### **Joint Financing Agreements**

The Organization continued to fulfil its responsibilities regarding the administration of the Danish and Icelandic Joint Financing Agreements to which 23 and 24 States, respectively, are contracting parties. These Agreements cover

the provision, in Greenland and in Iceland, of air traffic control, communications and meteorological services, to international civil aviation over the North Atlantic.

#### **Cooperation with other United Nations bodies**

Bodies throughout the UN system requested from ICAO civil aviation statistics, notably for the UN Monthly Bulletin of Statistics and the statistical publications of the regional economic commissions.

Based on a Memorandum of Understanding between ICAO and the UPU, an analysis of airline traffic and financial data was carried out and delivered to the UPU in order to calculate the basic rate applicable to the settlement of accounts between designated operators of UPU member countries, with respect to air mail conveyance.

#### **Outreach and awareness activities**

In cooperation with CAE, ICAO began developing a set of air transport e-learning courses covering air transport statistics, air transport economics, and forecasting for planning purposes. The first set of courses related to aviation statistics was completed and made available online. They target airport and airline planners, managers and operational staff, airport specialists in government, airline executives, marketing and commercial managers, aviation consultants and analysts from aircraft manufacturers.

The Organization participated in numerous presentations, information sessions and outreach activities worldwide, using an assortment of banners, brochures, reports, leaflets and multimedia. These activities sought to inform the public and the industry on air transport as well as on ICAO functions.

Awareness activities were directed at States, through the coordination of training and familiarization courses, as well as regional seminars, while regularly preparing input for the attention of the media on specific aviation issues and events.

In November, ICAO appeared before the Standing Senate Committee on Transport and Communication (Canada) to discuss and provide an analysis of the airline industry, in particular concerning trends and developments, liberalization, open skies agreements and challenges to transporters. The purpose was to assist in a study related to the Canadian airline industry.



**Voluntary support for ICAO's work**

The People's Republic of China supported ICAO's work toward sustainable air transport development by seconding an Air Transport Officer and an Infrastructure Officer.

**Activities of the Regional Offices**

Assistance from Regional Offices was provided to States in developing Environmental Action Plans aimed at reducing CO<sub>2</sub> emissions and in measuring the environmental benefits resulting from the implementation of operational improvements, including the use of the ICAO Fuel Savings Estimation Tool.

The Regional Offices promoted and encouraged the participation of States in the ICAO Air Transport Symposium (IATS) in Montréal and the ICAO Air Services Negotiation Conference (ICAN) in Saudi Arabia. They assisted in the organization of Regional Seminars in preparation for ATConf/6 in March 2013.

**Technical cooperation projects and initiatives**

During 2012, there were 19 national and three regional active technical cooperation projects related to environmental protection and the sustainable development of air transport. Major achievements over the period included:

*Asia and Pacific (APAC) Region*

- delivery of aviation law and policy courses under the Developing Countries Training Programmes of four States.

*Caribbean and South American (CAR/SAM) Region*

- contract award for the development of an Environmental and Social Impact Assessment for the international airport in one State;
- assistance to one State to ensure compliance with environmental regulations in the design and construction of a remote cargo apron and related facilities;
- delivery of training to 50 participants of 15 States in the area of sustainability and environmental management of air transport infrastructure;
- assessment study for the identification of human resource needs and training requirements for the CAAs of three States; and

- assessment study for the identification of air navigation equipment and human resource requirements for one State after an earthquake.

*Europe and Middle East (EUR/MID) Region*

- continued assistance to one State in various areas to enhance its human resource capabilities through professional training of qualified counterparts for sustainable development of its air transport economy.

**SUPPORTING  
IMPLEMENTATION  
STRATEGIES**



# SUPPORTING IMPLEMENTATION STRATEGIES

## LEGAL SERVICES AND EXTERNAL RELATIONS

### Legal issues relating to unruly passengers

Pursuant to a decision of the Council in November 2011 at its 194th Session to establish a special Sub-Committee of the Legal Committee to review the *Convention on Offences and Certain Other Acts Committed on Board Aircraft* (the Tokyo Convention), with particular reference to the issue of unruly passengers, the Sub-Committee held in Montréal its first meeting in May and its second in December. The Sub-Committee prepared a draft protocol to the Tokyo Convention containing a number of options to be considered by the Legal Committee.

### Promotion of Beijing Instruments

The Council and the Secretariat continued to promote the ratification of the *Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation* (the Beijing Convention) and the *Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft* (the Beijing Protocol) through the ICAO High-level Aviation Security Conference, meetings of the United Nations, and other fora. Two regional legal seminars also included the subject of the ratification of the Beijing instruments. One was the ICAO Legal Seminar in the Asia/Pacific Region, hosted by the Republic of Korea in April. The other was the ICAO/CERG Warsaw Air Law Conference in Warsaw hosted by Poland in September under the joint auspices of ICAO and the Central European Rotation Group (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia). As of 20 December, the Beijing Convention was ratified by Saint Lucia, Mali and the Dominican Republic, and the Beijing Protocol by Saint Lucia, Mali and Cuba.

### Cooperation within the framework of the UN Counter-Terrorism Implementation Task Force (CTITF)

As a member of the United Nations CTITF, ICAO continues to cooperate with the Task Force and its other members. ICAO supported and participated in the International Meeting on Chemical Safety and Security, held under the auspices of the Organization for the Prohibition of Chemical Weapons in Tarnów, Poland, in November.

**International interests in mobile equipment (aircraft equipment)**

On behalf of the Council in its capacity as the Supervisory Authority of the International Registry, the Secretariat continued to monitor the operation of the Registry to ensure that it functions efficiently in accordance with Article 17 of the Cape Town Convention. As the second three-year term of appointment of the Commission of Experts of the Supervisory Authority of the International Registry (CESAIR) came to an end during July 2012, the Council, pursuant to nominations/renomination received from Parties and Signatory States to the Cape Town Convention and Protocol, appointed/reappointed 15 members to the Commission effective 2 July 2012. The fifth meeting of CESAIR took place in December 2012 at ICAO Headquarters. The purpose of the meeting was to brief CESAIR members and to have preliminary discussions on numerous and significant changes to the *Regulations and Procedures for the International Registry* (Doc 9864) with a view to convening a sixth meeting during the second quarter of 2013 to finalize consideration of these changes and make recommendations to the Council. Pursuant to Article 62 (2) (c) of the Cape Town Convention and Article XXXVII (2) (c) of the Cape Town Protocol, the Council regularly receives information from the Depositary on ratifications, declarations, denunciations and designations of entry points. At year end, there were 48 ratifications and accessions to the Cape Town Convention and Protocol.

**Working Group on Governance and Efficiency (WGGE)**

The WGGE was constituted during the 195th Session of the Council in March 2012 following the merger of the former working groups on governance and efficiency. The WGGE undertook a study of various aspects of language services including translation and interpretation demand, quality of services, simultaneous distribution and timelines for publication of the language versions, and submitted recommendations that were considered by the Council during its 197th session in November 2012. The Council, while adopting those recommendations, requested the Secretariat and the various Committees of the Council and the Air Navigation Commission to make concrete proposals as applicable for optimal utilization of language services, for consideration by the Council at its 198th session.

**Tripartite Consultative Committee to discuss issues related to privileges and immunities**

The third meeting of the ICAO Tripartite Consultative Committee was held in May 2012. In addition to officials from Protocol Ottawa and Protocol Quebec as well as Representatives on the Council of ICAO, the City of Montréal was also represented.

The meeting reviewed the issues on its agenda regarding the residence in Canada of the permanent representatives, their families and the national delegations in such areas as: entry visas, acceptances, education, health, taxation, traffic regulations, and related privileges, immunities and courtesies

granted by the Host State at both the federal and provincial levels. The participants in the Committee noted that substantive progress had been made in several domains since the previous meeting in November 2011 and agreed that the next meeting scheduled for February 2013 would take stock of achievements to date and further focus on unresolved matters.

#### **Collaboration with the World Tourism Organization (UNWTO)**

ICAO continued its participation in the UNWTO Working Group on the protection of tourists/consumers and travel organizers. The Group is in the process of considering a proposed draft Convention on the protection of tourists and tourism service providers. Subjects covered include assistance obligations of States in situations of *force majeure*, the protection of the tourist in the event of insolvency of the travel organizer, as well as package travel related aspects. ICAO provided technical comments and drafting proposals regarding the draft instrument under development, primarily with a view to avoiding any potential overlap with existing air law instruments adopted under the auspices of ICAO.

#### **Implementation of ICAO's Policy on Regional Cooperation**

ICAO's Policy on Regional Cooperation was implemented through various measures which enabled both ICAO and the regional civil aviation bodies to encourage States to harmonize operational regulations, requirements and procedures based on SARPs. Cooperation with the regional organizations and the regional civil aviation bodies was enhanced. Synergies were strengthened between ICAO and each regional civil aviation body in accordance with arrangements as reflected by Memoranda of Cooperation concluded between ICAO and such bodies, thereby obviating duplication of work. Periodic meetings were held between ICAO and the regional civil aviation bodies, as well as meetings/workshops and seminars in the regions which were jointly organized by ICAO and the regional civil aviation bodies.

#### **Activities of the Regional Offices**

Throughout 2012, ICAO's Regional Offices were active in supporting activities relating to all the strategic objectives of the Organization. Programmes and projects in the regions are undertaken in close and direct coordination with Bureaus at Headquarters and are managed to ensure tracking and delivery of outcomes. In line with the Organization's enhanced strategy of regional cooperation, the Regional Offices worked closely with one another, with regional aviation organizations and regional offices of aviation bodies, to avoid duplication of effort and to share important common knowledge. In particular, they were involved with action plans contained in the Memoranda of Cooperation signed with the regional civil aviation bodies.

### Activities of particular importance in each Regional Office

#### *Middle East (MID) Office*

- Despite the safety and security situation in Cairo and the political situation in the region, which had a profound effect on staff, the Office work programme continued normally, except for a few situations when one or two activities had to be cancelled or postponed due to low participation level from the MID Region States. Provision of technical assistance and support to MID Region States continued without disruption.

### HUMAN RESOURCES

A total of 698 staff were in service on 31 December 2012, including 530 financed by the Regular Programme budget, 66 by the Administrative and Operational Services Costs (AOSC) fund and 102 by extra-budgetary funds. Of the total number of staff, 326 were in the Professional (P) and higher categories, and 372 in the General Services (GS) category. Eighty Member States were represented in the Secretariat in the Professional and higher categories.

The overall representation of women reached 30 per cent in the Professional and higher categories. At the senior level, representation stood at 50 per cent for D-2 and at 11 per cent for D-1 posts. As part of the Organization's outreach initiatives, one qualified woman was awarded the ICAO Women in Aviation International Training Scholarship.

ICAO continued to benefit from contributions of seven secondees and 28 gratis personnel, obtained through partnership arrangements with Member States and aviation authorities. This year, ICAO welcomed 22 new gratis personnel.

Following the implementation of the Ninth Edition of the *ICAO Service Code* on 1 January 2011, a comprehensive review of the Staff Rules was undertaken to further streamline human resources management policies, rules and practices, and to better align them, where required, with United Nations Common System Organizations.

A staff Mobility Policy was developed, based on voluntary managed reassignment and focusing primarily on functional mobility at the same duty station. One main objective of the Policy is to help the Organization meet its strategic goals and operational requirements, by making it possible to more easily move staff with appropriate skills and qualifications, at the same or to a different duty station, as and when required. Another objective is to assist staff to acquire new skills, knowledge and experience within and across bureaus/offices and functions.

The workforce planning mechanism, which consists of triennial and annual Human Resources Action Plans, along with improvements in recruitment



processes and workflows, had a positive impact, especially with regard to better meeting programme needs through organizational restructuring and job redesign to reprioritizing available resources, and through expedited recruitment and contract management.

The scope of learning and training opportunities was expanded. A new e-learning system, called "iLearn", began offering online courses to staff. iLearn also serves as a registration system for both online and classroom courses, thereby simplifying the recording and monitoring of training activity. An agreement was also reached with the United Nations in New York to access the online Skillssoft platform, consisting of a wide range of office-related courses, competency-based courses, books on management, as well as mandatory UN training courses. Specialized training activities in the technical aspects of air navigation disciplines continued to be made available to Regional Office staff for updating their knowledge and expertise. In addition, more than 100 training activities were organized for staff on subjects ranging from technical to non-technical, management development and soft skills development, as well as language skills. As required in the Ethics Framework, mandatory training on ethics was also organized at Headquarters and the Regional Offices. In total, more than 1 600 participants from ICAO benefitted from these training activities.

The posts and staff dedicated to Human Resources were reorganized to better meet programme and organizational needs, with a view to improving quality and timeliness of service delivery and advisory support. A post of Deputy Director Human Resources was created and filled to manage the planning and delivery of all HR operational services and policy development.

Modernization of the HR business process continued, in tandem with the implementation of automation improvements. This improved timeliness and responsiveness to programme needs, while maintaining a high level of quality of services. Human Resources is also participating in the design and development of an in-house intelligent workflow system intended to streamline processes, eliminate duplication and increase paperless activities. Once completed and tested, the system will have the capacity to be rolled out to other activities of ICAO.

A total of 84 vacancy notices (for 40 GS and 44 P positions) were published externally and 25 reclassification notices (19 GS and 6 P) published internally, with subsequent recruitment processes conducted. Where feasible, P-4 level positions were redesigned to the P-2 or P-3 levels, in order to recruit younger talent. The revised job profiles attracted a wider range of transferable skills and a greater number of applications from women, from unrepresented and under-represented Member States.

Since the beginning of the triennium, 55 per cent of GS posts and 39 per cent of P posts were updated and classified to reflect current functions and responsibilities. The new General Service Classification Standard promulgated by the International Civil Service Commission for use within all UN Common System Organizations was implemented at Headquarters and in all Regional



Offices. Training sessions were held on the new classification standard and on the writing of job descriptions. A condensed job description format was developed to expedite updating.

Enhanced communications activities with staff and the general public further improved the image of ICAO with internal and external publics as an employer of choice, with the intended result of attracting and retaining high-calibre candidates. During the implementation of the new Classification Standard, for example, personal and group interactive information sessions were held with all GS staff. The human resources newsletter was expanded to include issues of interest such as ethics. The external and internal websites were significantly modernized.

### **LANGUAGE AND PUBLICATIONS**

The Language and Publications Branch handled 11 million words, compared to 8.72 million words in 2011, using 50.9 per cent outsourcing and 49.1 per cent internal resources. Interpretation was provided to 1 376 sittings compared to 1 259 the previous year. The production of saleable publications decreased, with a continued expansion of web publishing on various ICAO websites. In accordance with the free quota policy as stipulated in the *ICAO Publications Regulations* (Doc 7231), the number of publications dispatched to Member States free of charge was 46 055.

The ICAO Policy and Procedures on Outsourcing of Translation Services came into effect in April. It aims at ensuring that all outsourcing activities related to requests for translation services are carried out in a rigorous, controlled and transparent manner. The aim is to achieve the highest possible quality, respecting deadlines and reducing costs within the framework of an established ratio between in-house translation and outsourcing, according to resources. The policy sets the scope and basic principles for the outsourcing of translation work, taking into account quality, speed of delivery and confidentiality, as well as financial factors. It also contains the criteria for the selection of translators and their classification, as well as a mechanism to be applied in relation to quality management of outsourced translations. This is to make sure that the work carried out is in full accordance with specific instructions and terms, and that it is complete and accurate.

The computer-assisted translation solution implemented at the end of 2011 became the backbone system for in-house and outsourced translation activities. An immediate benefit was an increase in the quality and consistency of translations, through greater control over the translation process. Productivity gains could also be realized over time, with improved efficiency in the processing of publications workflow. All staff in the Language and Publications Branch were given customized training according to their involvement with the system.

**REVENUE-GENERATING ACTIVITIES**

Revenue-generating activities continued to develop new revenue generating opportunities with Dangerous Goods licencing, training and events contributing significantly in 2012. Nonetheless, cost control continued to be a major challenge although significant reductions were made in the printing area.

The ongoing decline in sales of printed publications is reflected in the overall financial results for the year. The reasons for printed publications' decline are being addressed in 2013 whilst new product areas are being pursued in parallel in order to increase revenues.

A new electronic eCommerce "webstore" was put in place to better promote sales of ICAO documents.

**CONFERENCE AND OFFICE SERVICES**

With the successful implementation of new procedures in September, ICAO initiated an improved and more efficient conference registration process. The result was a significant reduction in time for onsite registration at the ICAO High-level Conference on Aviation Security and the Twelfth Air Navigation Conference.

Work began on a process to implement a comprehensive electronic event management system that will further facilitate registration at upcoming events, including the 38th Session of the ICAO Assembly in September 2013.

Several construction and office renovation projects have been completed in 2012 to optimize office space and the use of building resources. This included the upgrade of the Assembly Hall, the Council Chamber and conference rooms with latest audio-visual technologies. Work has also commenced on relocating the Commissariat shop in order to facilitate access for Delegates who participate in conferences.

**INFORMATION AND COMMUNICATION TECHNOLOGY**

The One-ICAO IT infrastructure was expanded to include electronic mail and directory services to most Regional Offices. This addition gave users access to a "full feature" email system and will enable complete integration into the new unified messaging functions to be deployed in 2013.

All workstations at Headquarters were upgraded to Windows 7 and Office 2010 to take advantage of state-of-the-art software. A deployment plan was finalized for the implementation of a basic disaster recovery site for the computer systems at Headquarters.

After a detailed analysis of the workflow in the records management and the electronic records management system architecture, the decision was taken to build ICAO's Electronic Records and Document Management System (EDRMS) on the Microsoft SharePoint platform, with additional software applications. This solution was the most cost-effective and most flexible to adapt the system to the needs of the Organization. It also takes into account that the process to standardize electronic document and records management within the UN system will be built on the same platform.

With the participation of users from all Bureaus, the existing taxonomy of ICAO record-keeping was simplified. Building and fine-tuning the application with substantial input from system users allowed for gradual implementation beginning late in the year, with a paper-based legacy system and the new EDRMS operated in parallel.

The ICAO public website was completely redesigned and aligned with best practices in other UN agencies. It now features an improved header area and navigation panes. The site was also reorganized to better promote special events and other content critical to ICAO's activities. ICT initiated the migration of the content of websites from the Regional Offices to reinforce ICAO's corporate electronic identity. The new public website will allow business contributors to update content more dynamically while maintaining a standard look and feel.

ICT worked in close collaboration with all Bureaus to identify critical areas for enhancing efficiency and effectiveness, capacity building and data intelligence through an information systems architecture. Work has commenced in ADB with systems such as iLearn and ICAOMed. In ANB and ATB, ICT created information management systems and learning modules including for TRAINAIR PLUS, performance-based navigation and aviation medicine. ICT also aggregated project portfolios, optimized the project development lifecycle and cooperated with ANB and ATB to introduce a quality framework for project management. An interactive information kit on USB drives, iKITS, was successfully developed and introduced at ICAO conferences.

## COMMUNICATIONS

Throughout the year, emphasis was placed on supporting major ICAO conferences and meetings, at Headquarters and in various regions, as well as world events of importance to aviation. Of note is a major media blitz on a series of connecting flights between Montréal and Rio de Janeiro for the Rio+20 United Nations Conference on Sustainable Development. Aircraft on all flight legs were powered by sustainable alternative fuels. Press conferences were held at airports in Montréal, Toronto, Mexico City, Sao Paolo and Rio. ICAO ensured coordination among airlines, aircraft manufacturers, fuel suppliers, local governments and other stakeholders involved.

Increased media activity was also reflected in a greater number of news releases and news briefs issued, more media interviews with ICAO executives locally and



during missions abroad, media training for senior ICAO officials, and procurement of media monitoring services to systematically measure the scope, nature and impact of media presence worldwide.

Communications cooperated with the Bureau of Administration and Services on the design for the new home page of the ICAO public website. This led to web initiatives such as the ICAO Perspectives series launched for AN-Conf/12, the homepage rotator and highlights sections to better publicize ICAO achievements, and regular news updates. These were complemented with more extensive use of the social media website Twitter to promote ICAO events and drive traffic to ICAO's website. An increase in the number of video messages by senior executives ensured a greater presence by the Organization at aviation events around the world.

# **TECHNICAL COOPERATION PROGRAMME**



## TECHNICAL COOPERATION PROGRAMME

The Technical Co-operation Programme complements the activities of the Regular Programme by supporting Member States in their implementation of ICAO SARPs, policies and procedures, in capacity building and in the development of their civil aviation systems.

This year, ICAO implemented a Technical Co-operation Programme valued at USD 130.9 million. Under various Trust Fund arrangements, 95 projects were carried out in 145 countries. Summaries of the projects implemented in 2012 can be found in Appendix 2 to this report, available online at: <http://www.icao.int/publications/Pages/annual-reports.aspx>

99.4 per cent of the total Programme funding was provided by countries that financed their own technical cooperation projects. Extra-budgetary contributions for specific projects from donors such as development banks, regional organizations, funding institutions and the aviation industry, including voluntary contributions in kind, amounted to 0.6 per cent of the Programme volume.

### The Technical Co-operation Programme implementation by region (in millions of USD)

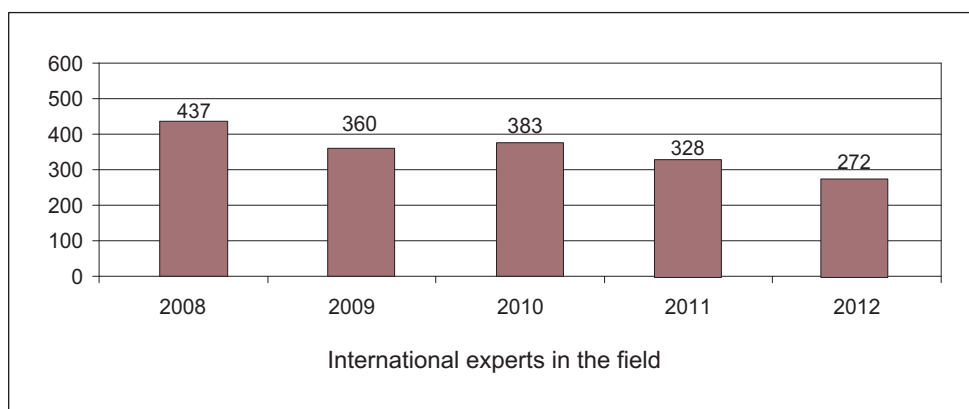
Region	2010	2011	2012
Africa	9.50	10.93	47.28
Americas	97.31	40.97	68.43
Asia/Pacific	11.97	9.31	4.24
Europe and Middle East	18.10	8.94	10.99
<b>Total</b>	<b>136.88</b>	<b>70.15</b>	<b>130.94</b>

As highlighted below, the three main components of projects implemented by ICAO were the recruitment of field experts, civil aviation training and procurement of equipment and services.

### Recruitment of experts

In 2012, 272 international field experts and consultants were recruited by ICAO. Together with 936 national project personnel, there were 1 008 serving officials, including 79 international field experts and consultants who were already serving in the field. These experts served as advisers to national civil aviation administrations, instructors at training centres or on the job, and as executive personnel providing governments with operational and administrative services, including safety inspections, where States lacked these capabilities.

The recruitment, training and retention of qualified national civil aviation professionals and safety inspectors through technical cooperation projects continued to improve aeronautical authorities' control and inspection capabilities. Such experts contributed to the achievement of the ICAO Strategic Objectives through the transfer of knowledge in various fields to national counterparts, the implementation of ICAO SARPs, the development of adequate civil aviation organizational structures, institutional development and capacity building, and the rectification of safety and security deficiencies.



### Civil aviation training

A total of 573 fellowships were awarded for a combined duration of 384.8 work/months, as described below:

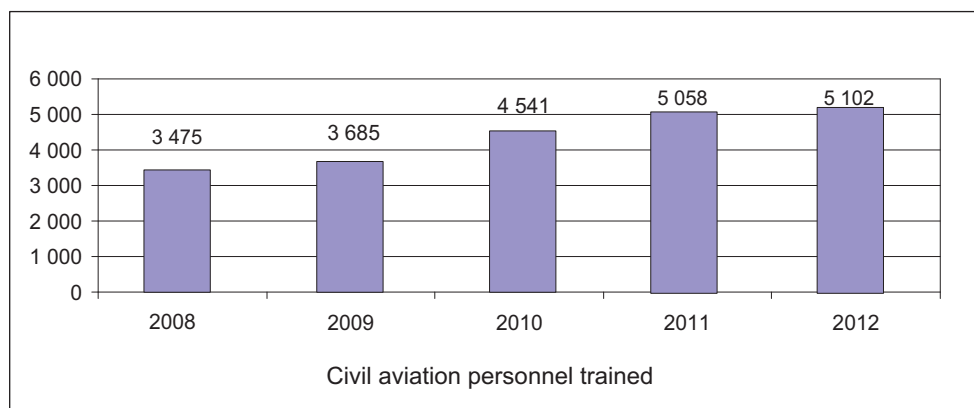
- 229 fellowships were awarded under in-country and regional technical cooperation projects funded by recipient governments or donors.
- 344 fellowships were awarded under Memoranda of Understanding signed by ICAO with India, Indonesia, the Republic of Korea and Singapore for the provision of training to be funded by these countries and administered by ICAO. Of those:

- 12 fellowships for training at the Indian Aviation Academy in airport safety management systems and instructional techniques;
- 54 fellowships for courses held at the Indonesia Civil Aviation Training Centre on aviation internal auditing, civil aviation management, management of aviation security, flight operations inspections, and safety management systems;
- 208 fellowships for training at the Korea Civil Aviation Training Centre and the Incheon International Airport Corporation Aviation Academy on the subjects of Doppler VOR maintenance; Global Navigation Satellite Systems (GNSS); airport operations; aviation security; radar approach control; Annex 14 — *Aerodromes*; air navigation policy; radar concepts; airport terminal operations; Instrument Landing Systems (ILS) maintenance; electronic safety tools; and aviation policy for executives; and
- 70 fellowships for training at the Singapore Aviation Academy in crisis management in aviation security; civil aviation management; CNS/ATM; international air law; emergency management; ICAO State Safety Programme; safety oversight inspectors (flight operations and airworthiness); and safety oversight management.

In addition, ICAO experts recruited through technical cooperation projects provided in-country training in various fields for 4 236 CAA personnel. Recipient States also continued to include substantial training for their nationals as part of the procurement component of their ICAO technical cooperation projects. A full 293 national staff benefited from training in new technologies and in the operation of equipment purchased through ICAO.

The training of management, technical and operational personnel was particularly important in terms of improving State oversight capabilities. According to information provided by Member States, personnel trained through the Technical Co-operation Programme are progressively absorbed by CAAs, which benefit greatly from the training and retention of a workforce of qualified aviation safety and security personnel, including inspectors.



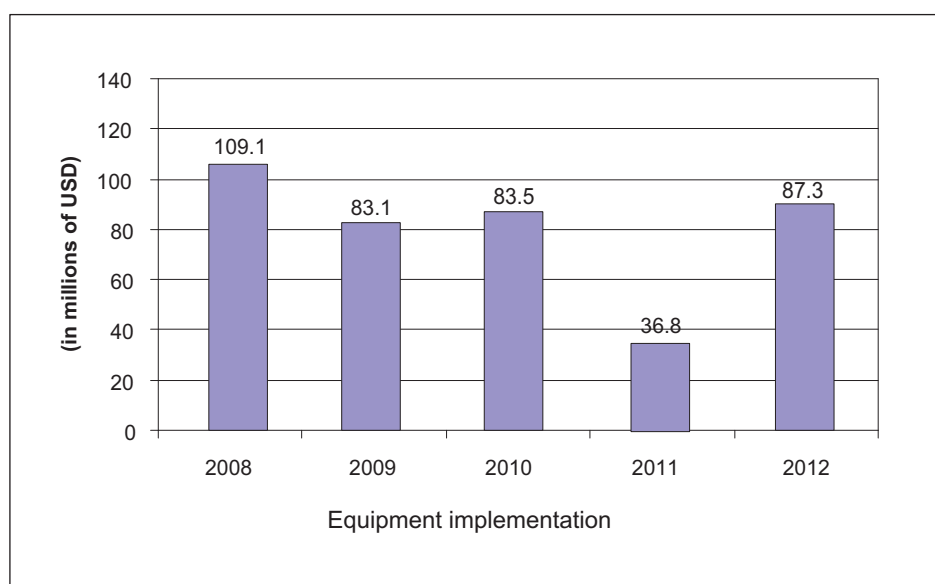


### Equipment and subcontracts

A total of 283 purchase orders and subcontracts were issued for the Technical Co-operation Programme; the total field procurement implementation amounted to USD 87.3 million. Assistance provided to States to upgrade their civil aviation infrastructure ranged from the development of technical specifications, tendering and administering of complex multiphase turnkey contracts to the commissioning of equipment. This had a direct and positive impact on the safety and security of airports, communications and air navigation infrastructure, by enabling more efficient and economic aviation operations in the States and regions concerned. In particular, ICAO expertise ensured that technical specifications were in compliance with applicable SARPs and regional air navigation plans.

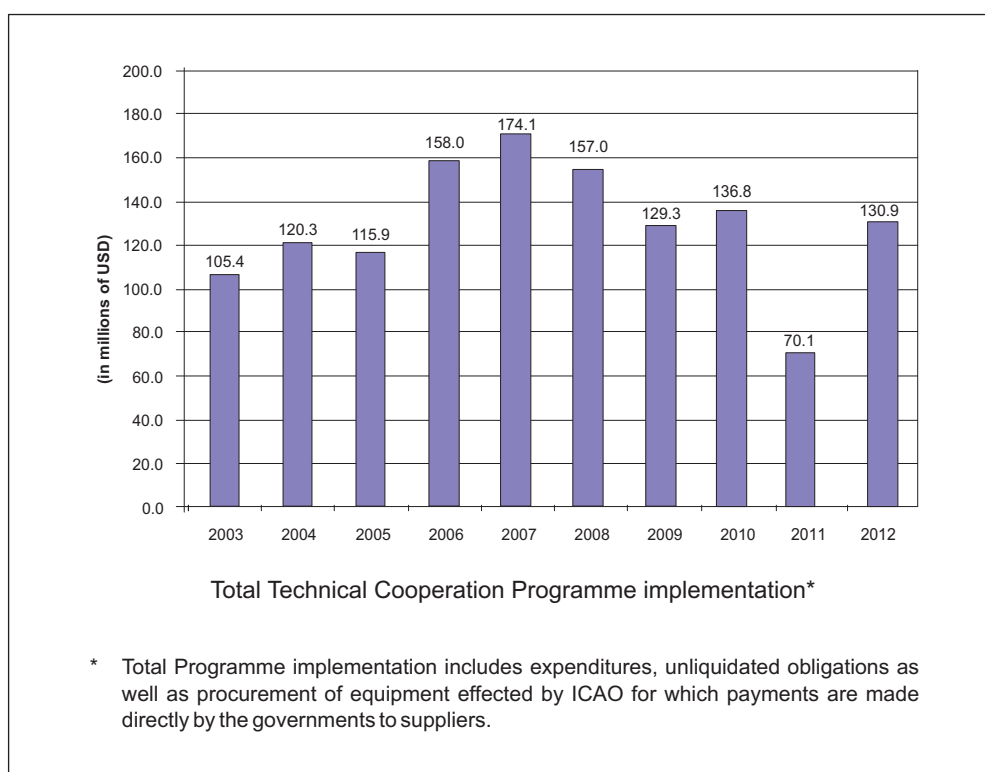
A further 2 000 purchase orders and subcontracts (including direct purchase orders) for CAD 9.5 million were issued by TCB covering procurement of equipment and services for the ICAO Regular Programme and Technical Co-operation Bureau administrative requirements.

The Procurement Section was certified to the ISO 9001:2008 standard for quality management, making it the second section within the Organization to receive such compliance. The ISO 9001:2008 certification ensures that the procurement of goods and/or services is effected in the best interests of the Organization and/or assisted States, promoting accountability at all levels of the Organization.



**Implementation volume by Strategic Objective  
(in millions of USD)**

Strategic Objective	The Americas		Africa		Asia/Pacific		Europe and Middle East		Total Programme Implementation	
	Value	%	Value	%	Value	%	Value	%	Value	%
A. Safety	43.11	63.0	46.81	99.0	3.44	81.0	10.22	93.0	103.58	79.1
B. Security	15.05	22.0	0.47	1.0	0.30	7.0	0.66	6.0	16.48	12.6
C. Env./Sust. Dev	10.26	15.0	0.0	0.0	0.51	12.0	0.11	1.0	10.88	8.3
<b>Total</b>	<b>68.42</b>	<b>100.0</b>	<b>47.28</b>	<b>100.0</b>	<b>4.25</b>	<b>100.0</b>	<b>10.99</b>	<b>100.0</b>	<b>130.94</b>	<b>100.0</b>



### The Administrative and Operational Services Cost (AOSC) budget

The Technical Co-operation Programme is funded by extra-budgetary resources provided by donors or governments that fund their own projects. Administrative charges are levied for the execution of projects on a cost-recovery basis, and revenues raised from these charges are administered through the Technical Co-operation AOSC Fund. The AOSC Fund covers the cost of the administration, operation and support of the Technical Co-operation Programme, including TCB's staff costs, general operating expenses and equipment. Regular Programme expenditures for services provided to the Technical Co-operation Programme are also recovered from the AOSC Fund.

The Canadian dollar is the base currency for the budgets and accounts of the proprietary funds of the Organization, including the AOSC Fund. However, funds administered on behalf of third parties, such as those established to manage technical cooperation projects, are recorded in United States dollars.

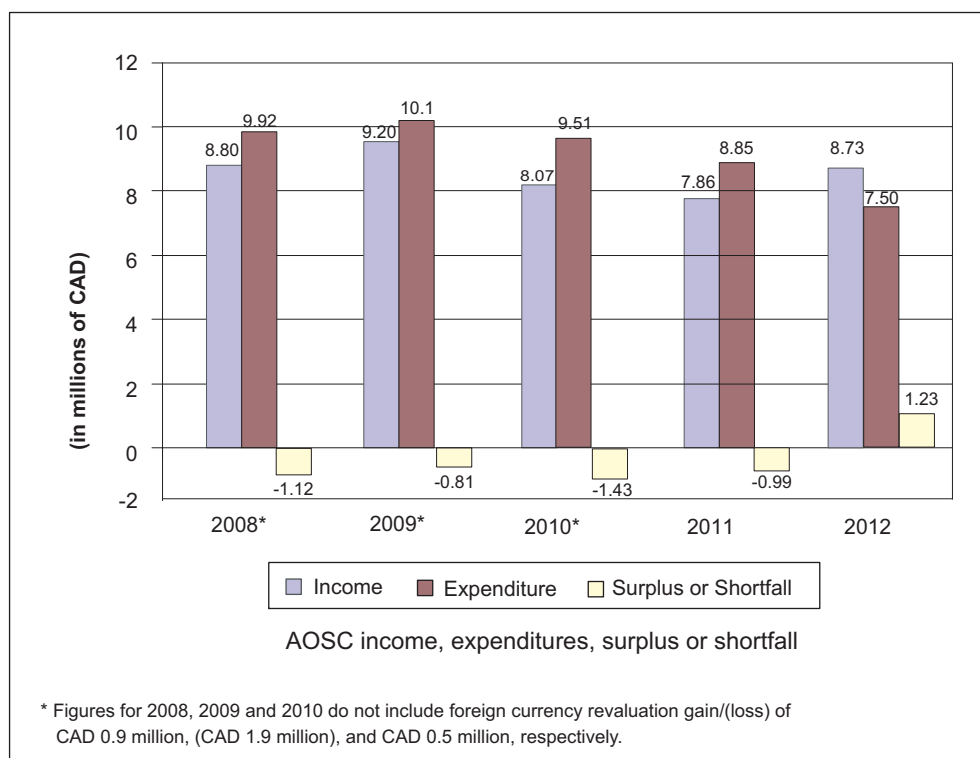
Annual AOSC surpluses or deficits are the result of the excess or shortfall of income over expenditures for a given year. The accumulated AOSC surplus on 31 December 2012 was CAD 2.0 million. These funds are used to cover possible deficits in programme operations as well as to pay, if necessary, termination indemnities to staff.

Estimated results show a surplus of CAD 1.2 million in 2012. The average overhead rate charged to projects over the past five years increased from 4.6 per cent in 2008 to 6.1 per cent in 2012.

**Activities of the Regional Offices**

The Regional Offices participated in project formulation missions and activities for the establishment and/or enhancement of regulatory and safety oversight capabilities, aviation security arrangements and training capacity. They developed relationships with State representatives to raise awareness of the Technical Cooperation programme.

Technical cooperation activities were integrated into Regional Office work programmes through the involvement of regional officers in project formulation, selection of candidates for assignment as project experts, ongoing technical support, and project monitoring and review.



**Activities of particular importance in each Regional Office***Asia and Pacific (APAC) Office*

- Effective coordination between the APAC Office and TCB and increased engagement of the Regional Office activities in TCP matters/projects such as the Fellowship administration of the ICAO Developing Countries Training Programme and the formulation of project documents.

Detailed information on projects implemented in 2012 can be found at  
<http://www.icao.int/publications/Pages/annual-reports.aspx>

# FINANCIAL OVERVIEW



# FINANCIAL OVERVIEW

## Financial highlights — 2012

The budget appropriations for 2011-2012-2013 and the financing of the appropriations, as approved by the Assembly, are shown in Table 1:

**Table 1. Appropriations for 2011, 2012 and 2013**  
(in thousands of CAD)

	2011	2012	2013
Appropriations	89 495	93 052	98 069
To be financed by:			
Assessments	82 024	84 256	88 727
Miscellaneous Income	1 200	1 300	1 455
Ancillary Revenue Generation Fund Surplus	4 370	4 688	5 082
Reimbursement from AOSC Fund	1 712	1 759	1 841
Transfer from Incentive Scheme for Long-Outstanding Arrears Account	189	1 049	964

As shown in Table 2, the final appropriation for 2012 was adjusted to CAD 94 172 000, as a result of:

- i) the carry-over of 2011 appropriations to 2012 for a total of CAD 10 196 000 in accordance with Financial Regulation 5.6 and Financial Regulation 5.7;
- ii) the decrease of appropriation of CAD 557 000, being the amount not reimbursed to the Regular Programme by the Administrative and Operational Services Cost Fund (AOSCF);
- iii) the transfer between Strategic Objectives or Supporting Implementation Strategies in accordance with Financial Regulation 5.9; and
- iv) the following adjustments for a total amount of CAD 8 519 000 to decrease 2012 appropriations and to increase 2013 appropriations:

- a) the Outstanding Commitments in the amount of CAD 5 212 000 in accordance with Financial Regulation 5.7; and
- b) the carry-over of 2012 appropriations to 2013 in the amount of CAD 3 307 000 as per Financial Regulation 5.6.

The actual expenditure for 2012 amounted to CAD 93 773 000. Since 2010, Member States are invoiced partly in USD and partly in CAD. The USD/CAD exchange rate on 1 January 2012 (the date when invoices were raised in USD) was lower than the rate used in developing the 2012 budget causing a reduction to total assessed contributions of CAD 399 000. This difference (CAD 399 000) has been added to actual expenditures (CAD 93 773 000) in order to restate them to the budget rate of exchange, which amounts to CAD 94 172 000.

**Table 2. Revised appropriation for 2012**  
(in thousands of CAD)

Strategic Objective / Supporting Implementation Strategy	Original Assembly Resolution A37-26	Appropriations					Expenditures		
		Carry-over from prior year	Decrease in appropriation	Transfers among SO/SIS	Adjustments	Revised	Actual	Budget exchange difference	At budget rate of exchange
<b>Strategic Objectives (SO)</b>									
A Safety	24 414	3 367		1 121	(1 695)	27 207	27 041	166	27 207
B Security	13 844	712		(2 599)	(325)	11 632	11 538	94	11 632
C Environmental Protection and Sustainability	11 892	1 256		(678)	(1 096)	11 374	11 305	69	11 374
<b>Subtotal – SO</b>	<b>50 150</b>	<b>5 335</b>	<b>0</b>	<b>(2 156)</b>	<b>(3 116)</b>	<b>50 213</b>	<b>49 884</b>	<b>329</b>	<b>50 213</b>
<b>Supporting Implementation Strategies (SIS)</b>									
Programme support	21 113	2 231	(256)	1 029	(2 232)	21 886	21 859	27	21 886
Management and Administration	14 770	2 193	(289)	1 387	(2 569)	15 492	15 459	33	15 492
Management and Administration — Governing Bodies	7 019	437	(12)	(260)	(602)	6 581	6 571	10	6 581
<b>Subtotal – SIS</b>	<b>42 902</b>	<b>4 861</b>	<b>(557)</b>	<b>2 156</b>	<b>(5 403)</b>	<b>43 959</b>	<b>43 889</b>	<b>70</b>	<b>43 959</b>
<b>Total</b>	<b>93 052</b>	<b>10 196</b>	<b>(557)</b>	<b>–</b>	<b>(8 519)</b>	<b>94 172</b>	<b>93 773</b>	<b>399</b>	<b>94 172</b>



**Table 3. Cash balances for 2012**  
(in thousands of CAD)

As at	2012			2011		
	General Fund CAD	Working Capital Fund CAD	Total CAD	General Fund CAD	Working Capital Fund CAD	Total CAD
1 January	8 787	6 140	14 927	15 618	5 998	21 616
31 March	34 375	5 980	40 355	19 985	5 645	25 630
30 June	22 896	6 185	29 081	8 713	5 710	14 423
30 September	14 526	5 947	20 473	10 570	5 887	16 457
31 December	8 547	5 961	14 508	8 787	6 140	14 927

Tables 4 and 5 below are an extract of the audited Financial Statements of ICAO for the year 2012.

Table 4 shows revenue and expenses for the year 2012 on the IPSAS basis, extracted from Statement II of the Financial Statements. It contains all Funds controlled by ICAO.

**Table 4. 2012 Revenue and Expenses Summary (all funds)**  
(in thousands of CAD)

<b>REVENUE:</b>	
Contributions for project agreements	105 132
Assessed contributions	84 205
Other revenue-producing activities	13 133
Other voluntary contributions	6 755
Other revenue	2 225
<b>Total revenue</b>	<b>211 450</b>
<b>EXPENSES:</b>	
Staff salaries and employee benefits	133 575
General operating expenses	17 189
Supplies, consumables and others	53 579
Travel and meetings	9 819
Miscellaneous costs	4 794
<b>Total expenses</b>	<b>218 956</b>
<b>Operating surplus/(deficit)</b>	<b>(7 506)</b>

Table 5 presents the Financial Position of the Organization as at 31 December 2012. It shows the assets, liabilities and surpluses/(deficits) for all funds combined, and it is extracted from Statement I of the Financial Statements.

**Table 5. Financial position as at 31 December 2012 (all funds)**  
(in thousands of CAD)

	2012 CAD	2011 CAD
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	246 379	193 393
Assessed contributions receivable from		
Member States	4 725	5 761
Receivables and advances	13 408	11 053
Inventories	1 121	952
Others	2 065	1 936
<b>SUB-TOTAL</b>	<b>267 698</b>	<b>213 095</b>
<b>NON-CURRENT ASSETS</b>		
Assessed contributions receivable from		
Member States	6 116	5 581
Receivables and advances	464	496
Property, plant and equipment	3 726	3 046
Intangible assets	1 193	958
<b>SUB-TOTAL</b>	<b>11 499</b>	<b>10 081</b>
<b>TOTAL ASSETS</b>	<b>279 197</b>	<b>223 176</b>
<b>LIABILITIES</b>		
<b>CURRENT LIABILITIES</b>		
Advanced receipts	208 828	149 559
Accounts payable and accrued liabilities	18 720	19 354
Employee benefits	4 669	4 060
Credits to contracting/servicing governments	1 608	1 397
<b>SUB-TOTAL</b>	<b>233 825</b>	<b>174 370</b>
<b>NON-CURRENT LIABILITIES</b>		
Employee benefits	90 217	78 817
	<b>90 217</b>	<b>78 817</b>
<b>TOTAL LIABILITIES</b>	<b>324 042</b>	<b>253 187</b>
<b>NET ASSETS</b>		
Accumulated deficit	(48 487)	(43 659)
Reserves	3 642	13 648
<b>NET ASSETS (Net accumulated deficit)</b>	<b>(44 845)</b>	<b>(30 011)</b>
<b>TOTAL LIABILITIES AND NET ASSETS</b>	<b>279 197</b>	<b>223 176</b>

*The accompanying notes are an integral part of the financial statements.*

**Enterprise Risk Management (ERM)**

In 2012, the Bureaus completed risk registers by identifying the internal and external risks relating to their area of work while also highlighting existing mitigating actions that have been implemented to date in order to control these risks. The Bureaus followed up by performing an assessment of the risk and, based on the residual level of exposure following the implementation of the existing mitigation, they then rated the risks in terms of a combination of probability and impact. Based on the risk rating, three categories of risks were identified: those that are acceptable and no action is required (coded green), those that are acceptable but additional mitigations are required (yellow), and those considered unacceptable and that will therefore be closely monitored, and strong additional mitigation will be implemented (red).

The risk registers are in line with the business plan structure and the Strategic Objectives and some core organizational administrative functions such Human Resources, Finance, Procurement and Information Technology. These risk registers have been shared with Council and thereafter with the Evaluation and Audit Advisory Committee which has welcomed the work done so far and has recommended that ICAO further implement ERM throughout all levels of the Organization. At the suggestion of the European Civil Aviation Conference, a financial impact column in the risk register was incorporated so that the financial risks can be adequately assessed together with the potential cost of further mitigation options.

There is a formal enterprise process in place to follow up and report on the status of the enterprise risks twice a year. In addition, risk owners are accountable for managing their risks on a day-to-day basis.

**ICAO Knowledge Shared Network (IKSN)**

The IKSN was successfully implemented in ANB, ATB and the Regional Offices. The tool reported on the status and budget expenditure of the three Strategic Objectives and the status of all 36 Programmes as well as the projects contained within them. IKSN was demonstrated to the Council during the 196th and 197th sessions. Further enhancements to the tool are currently underway.

**Rolling Business Plan**

The first Rolling Business Plan was introduced to the Council in 2011, whereby the Council received a view of emerging issues and trends. The second Rolling Business Plan was rolled out in 2012. As in the previous year, the Rolling Business Plan identified mission-critical activities that could be candidates for future funding. The Council used the second Rolling Business Plan as the foundation for developing the regular budget for the 2014-2015-2016 triennium, and several new initiatives identified through the Rolling Business Plan are being incorporated into the budget for the next triennium.

**Evaluation and Internal Audit Office (EAO)**

During 2012, EAO completed internal audits of TCB consultants and the Paris Regional Office. In addition, various reports by the Joint Inspection Unit were presented to the Council, along with action plans proposed by the Secretariat. Subjects covered included: UN system-wide reviews of the audit function; inter-agency staff mobility and work/life balance; policies and procedures for the administration of trust funds; South-South and Triangular Cooperation; the investigation function; review of the medical services; multilingualism; and Information and Communication Technology governance.

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## APPENDIX 1. TABLES RELATING TO THE WORLD OF AIR TRANSPORT IN 2012

General Note.— The statistical data for 2012 appearing in this Report are to be considered as preliminary: experience shows that the margin of error for world totals is probably less than 2 per cent, except in the case of profit margins where it may be considerably higher. Unless otherwise noted:

- a) all statistical data are applicable to ICAO Member States;
- b) traffic statistics are for revenue scheduled services;
- c) the expression “tonne-kilometre” means metric tonne-kilometre;
- d) total airline financial statistics relate to scheduled as well as non-scheduled operations of scheduled airlines.

**Table 1. World total revenue traffic — international and domestic**  
(scheduled services of airlines of ICAO Member States, 2003–2012)

Year	Passengers		Passenger-km		Freight tonnes		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)
2003	1 764	3.2	3 130 475	1.8	33.6	6.7	134 379	4.9	4 177	-0.9	429 921	2.7
2004	1 969	11.6	3 571 872	14.1	36.8	9.6	148 624	10.6	4 223	1.1	484 091	12.6
2005	2 109	7.1	3 857 622	8.0	37.7	2.5	152 339	2.5	4 295	1.7	514 588	6.3
2006	2 227	5.6	4 098 281	6.2	40.1	6.2	162 402	6.6	4 182	-2.6	546 715	6.2
2007	2 422	8.8	4 434 885	8.2	42.5	6.2	170 205	4.8	4 156	-0.6	582 986	6.6
2008	2 458	1.5	4 523 484	2.0	41.1	-3.2	168 569	-1.0	4 625	11.3	592 609	1.7
2009	2 448	-0.4	4 475 848	-1.1	40.8	-0.8	153 606	-8.9	4 372	-5.5	567 176	-4.3
2010	2 662	8.7	4 831 858	8.0	48.6	19.2	183 980	19.8	4 595	5.1	633 783	11.7
2011	2 824	6.1	5 149 693	6.6	49.7	2.2	184 532	0.3	4 737	3.1	665 232	5.0
2012	2 957	4.7	5 401 797	4.9	49.2	-1.0	182 429	-1.1	4 997	5.5	686 609	3.2

Source.— ICAO Air Transport Reporting Forms A and A-S plus ICAO estimates.

**Table 2. World revenue traffic — international**  
(scheduled services of airlines of ICAO Member States, 2003–2012)

Year	Passengers		Passenger-km		Freight tonnes		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)	(millions)	Annual increase (%)
2003	574	2.6	1 799 463	0.1	19.5	4.3	111 458	1.5	2 421	0.0	284 120	0.5
2004	662	15.3	2 085 577	15.9	21.7	11.2	124 387	11.6	2 528	4.4	322 760	13.6
2005	722	9.0	2 277 450	9.2	22.5	3.7	127 994	2.9	2 662	5.3	344 385	6.7
2006	789	9.3	2 461 159	8.1	23.9	6.4	136 627	6.7	2 725	2.4	370 278	7.5
2007	872	10.5	2 673 979	8.6	25.4	6.3	143 484	5.0	2 860	4.9	394 806	6.6
2008	906	3.9	2 756 842	3.1	25.2	-0.9	142 284	-0.8	3 037	6.2	401 615	1.7
2009	918	1.3	2 721 677	-1.3	24.6	-2.3	129 761	-8.8	3 020	-0.6	385 956	-3.9
2010	1 015	10.6	2 953 162	8.5	31.8	29.2	158 032	21.8	3 212	6.4	438 100	13.5
2011	1 102	8.5	3 178 187	7.6	32.7	2.8	158 680	0.4	3 282	2.2	460 576	5.1
2012	1 157	5.1	3 350 411	5.4	32.3	-1.2	156 302	-1.5	3 488	6.3	474 744	3.1

Source.— ICAO Air Transport Reporting Forms A and A-S plus ICAO estimates.

**Table 3. Trends in load factors on scheduled services — international and domestic**  
(scheduled services of airlines of ICAO Member States, 2003–2012)

Year	Passenger-km (millions)	Seat-km available (millions)	Passenger load factor (%)	Freight tonne-km (millions)	Mail tonne-km (millions)	Total tonne-km performed (millions)	Total tonne-km available (millions)	Weight load factor (%)
2004	3 571 872	4 872 904	73	148 624	4 223	484 091	792 103	61
2005	3 857 622	5 153 777	75	152 339	4 295	514 588	836 933	61
2006	4 098 281	5 412 300	76	162 402	4 182	546 715	877 123	62
2007	4 434 885	5 781 360	77	170 205	4 156	582 986	934 988	62
2008	4 523 484	5 964 954	76	168 569	4 625	592 609	960 081	62
2009	4 475 848	5 844 121	77	153 606	4 372	567 176	920 111	62
2010	4 831 858	6 188 831	78	183 980	4 595	633 783	954 018	66
2011	5 149 693	6 609 757	78	184 532	4 737	665 232	1 011 711	66
2012	5 401 797	6 867 052	79	182 429	4 997	686 609	1 041 048	66

Source.— ICAO Air Transport Reporting Forms A and A-S plus ICAO estimates.

**Table 4. Regional distribution of scheduled traffic — 2012****Total (international and domestic) services of airlines of ICAO Member States**

By ICAO statistical region of airline registration	Aircraft kilometres (millions)	Aircraft departures (thousands)	Passengers carried (thousands)	Passenger-kilometres performed (millions)	Passenger load factor (%)	Tonne-kilometres performed		Tonne-kilometres available (millions)	Weight load factor (%)
						Freight (millions)	Total (millions)		
Europe	9 984	7 693	799 324	1 466 623	79	41 479	180 515	255 416	71
Percentage of world traffic	24.7	24.7	27.0	27.2		22.7	26.3	24.5	
Africa	1 151	879	67 154	125 850	68	3 016	15 404	26 531	58
Percentage of world traffic	2.8	2.8	2.3	2.3		1.7	2.2	2.5	
Middle East	2 397	1 056	145 237	442 855	77	19 943	62 197	96 412	65
Percentage of world traffic	5.9	3.4	4.9	8.2		10.9	9.1	9.3	
Asia and Pacific	11 088	7 892	922 042	1 632 962	77	71 817	221 602	332 178	67
Percentage of world traffic	27.4	25.3	31.2	30.2		39.4	32.3	31.9	
North America	13 297	11 141	810 191	1 452 654	83	41 070	175 321	280 741	62
Percentage of world traffic	32.8	35.7	27.4	26.9		22.5	25.5	27.0	
Latin America and Caribbean	2 568	2 517	213 490	280 855	75	5 104	31 569	49 769	63
Percentage of world traffic	6.3	8.1	7.2	5.2		2.8	4.6	4.8	
<b>Total</b>	<b>40 485</b>	<b>31 178</b>	<b>2 957 437</b>	<b>5 401 797</b>	<b>79</b>	<b>182 429</b>	<b>686 609</b>	<b>1 041 048</b>	<b>66</b>

**International services of airlines of ICAO Member States**

By ICAO statistical region of airline registration	Aircraft kilometres (millions)	Aircraft departures (thousands)	Passengers carried (thousands)	Passenger-kilometres performed (millions)	Passenger load factor (%)	Tonne-kilometres performed		Tonne-kilometres available (millions)	Weight load factor (%)
						Freight (millions)	Total (millions)		
Europe	8 340	5 141	579 665	1 295 433	80	40 534	163 625	229 396	71
Percentage of world traffic	39.4	52.5	50.1	38.7		25.9	34.5	32.2	
Africa	920	463	41 206	107 975	68	2 937	13 640	23 965	57
Percentage of world traffic	4.3	4.7	3.6	3.2		1.9	2.9	3.4	
Middle East	2 206	779	115 572	420 286	77	19 863	60 049	93 102	64
Percentage of world traffic	10.4	8.0	10.0	12.5		12.7	12.6	13.1	
Asia and Pacific	5 288	1 780	259 376	906 975	77	63 530	149 770	221 012	68
Percentage of world traffic	25.0	18.2	22.4	27.1		40.6	31.5	31.1	
North America	3 347	1 145	117 871	488 012	82	25 127	70 593	118 232	60
Percentage of world traffic	15.8	11.7	10.2	14.6		16.1	14.9	16.6	
Latin America and Caribbean	1 092	483	43 649	131 730	77	4 311	17 068	26 083	65
Percentage of world traffic	5.2	4.9	3.8	3.9		2.8	3.6	3.7	
<b>Total</b>	<b>21 194</b>	<b>9 789</b>	<b>1 157 340</b>	<b>3 350 411</b>	<b>78</b>	<b>156 302</b>	<b>474 744</b>	<b>711 789</b>	<b>67</b>

Note.— The sum of the individual regions may not match the totals due to rounding.

Source.— ICAO Air Transport Reporting Forms A and A-S plus ICAO estimates.

**Table 5. Tonne-kilometres and passenger-kilometres performed on scheduled services**  
(countries and groups of countries whose airlines performed more than 100 million total tonne-kilometres in 2012<sup>1</sup>)

Country or group of countries	TONNE-KILOMETRES PERFORMED (millions)								PASSENGER-KILOMETRES PERFORMED (millions)							
	(passengers, freight and mail)															
	Total operations (international and domestic)				International operations				Total operations (international and domestic)				International operations			
	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)
United States	1	160 758	159 956	1	1	61 449	61 383	0	1	1 324 750	1 310 541	1	1	409 568	403 463	2
China <sup>2</sup>	2	60 566	57 416	5	6	19 061	19 444	-2	2	500 258	451 162	11	8	97 143	85 758	13
Hong Kong SAR <sup>3</sup>		20 180	20 430	-1		20 180	20 430	-1		109 589	106 013	3		109 589	106 013	3
Macao SAR <sup>4</sup>		274	239	14		274	239	14		2 480	2 143	16		2 480	2 143	16
United Arab Emirates	3	36 096	30 900	17	2	36 096	30 900	17	4	246 112	208 262	18	2	246 112	208 262	18
Germany	4	29 306	29 925	-2	3	28 240	28 885	-2	5	218 902	220 036	-1	4	208 208	209 595	-1
United Kingdom	5	28 868	28 310	2	4	28 170	27 616	2	3	251 626	243 236	3	3	243 564	235 053	4
Republic of Korea	6	21 645	21 425	1	5	21 133	20 895	1	15	98 727	95 487	3	9	93 928	90 579	4
France	7	19 975	20 030	0	8	17 510	17 551	0	6	166 193	162 485	2	5	140 885	137 015	3
Japan	8	18 858	17 094	10	10	12 106	10 886	11	8	138 059	122 628	13	18	61 361	53 039	16
Singapore	9	18 471	17 957	3	7	18 471	17 957	3	11	111 526	102 516	9	6	111 526	102 516	9
Russian Federation	10	17 837	15 429	16	12	10 809	8 934	21	7	150 872	126 837	19	11	82 505	63 452	30
Australia	11	15 613	15 448	1	15	9 567	9 656	-1	9	135 664	132 302	3	14	72 079	71 693	1
Netherlands	12	15 485	15 126	2	9	15 485	15 126	2	17	93 794	88 964	5	10	93 794	88 964	5
Canada	13	14 563	14 201	3	16	9 144	8 795	4	10	127 904	123 664	3	12	78 444	75 110	4
Brazil	14	11 577	11 076	5	26	3 367	3 422	-2	12	111 425	105 732	5	26	26 065	25 728	1
Turkey	15	11 500	9 487	21	14	9 661	7 773	24	16	96 488	79 458	21	13	76 868	61 484	25
Qatar	16	10 844	9 232	17	11	10 844	9 232	17	21	71 941	61 600	17	15	71 941	61 600	17
India	17	10 824	11 801	-8	21	5 427	6 328	-14	14	102 380	110 960	-8	21	45 426	52 678	-14
Ireland	18	10 208	10 101	1	13	10 205	10 096	1	13	111 178	109 948	1	7	111 162	109 913	1
Thailand	19	9 697	9 133	6	17	8 649	8 204	5	20	74 499	67 363	11	17	64 111	58 208	10
Spain	20	8 829	9 851	-10	18	7 329	7 816	-6	18	83 005	90 570	-8	16	67 445	69 839	-3
Malaysia	21	8 561	9 082	-6	19	7 117	7 609	-6	22	71 015	73 979	-4	19	56 501	59 494	-5
Indonesia	22	7 736	6 964	11	35	2 314	2 242	3	19	82 042	73 098	12	30	21 007	20 272	4
Switzerland	23	6 149	5 665	9	20	6 135	5 649	9	24	47 080	43 361	9	20	46 944	43 204	9
Saudi Arabia	24	5 816	5 107	14	23	4 601	3 979	16	26	43 930	38 805	13	24	31 293	27 944	12
Scandinavia <sup>5</sup>	25	5 422	4 946	10	22	4 733	4 281	11	23	51 160	46 402	10	22	43 987	39 482	11
Italy	26	5 104	5 374	-5	25	4 079	4 282	-5	27	43 586	46 722	-7	23	33 240	35 708	-7
Mexico	27	4 752	4 070	17	40	1 963	1 672	17	25	45 213	39 652	14	33	17 870	15 102	18
Luxembourg	28	4 442	4 696	-5	24	4 442	4 696	-5	115	432	464	-7	113	432	464	-7
South Africa	29	4 118	3 888	6	27	3 078	2 873	7	29	32 392	30 750	5	28	21 911	20 797	5
Philippines	30	3 953	3 701	7	33	2 566	2 483	3	28	34 589	32 683	6	27	22 376	21 690	3
Chile	31	3 839	3 393	13	29	2 989	2 660	12	32	25 113	21 749	15	38	16 201	14 184	14
New Zealand	32	3 443	3 312	4	28	3 065	2 945	4	31	25 571	24 640	4	29	21 470	20 654	4
Colombia	33	3 125	2 835	10	36	2 311	2 115	9	35	19 914	17 283	15	44	12 106	10 397	16
Portugal	34	2 942	2 871	2	31	2 753	2 667	3	30	28 811	27 653	4	25	26 893	25 580	5
Ethiopia	35	2 834	2 382	19	30	2 798	2 356	19	41	17 625	15 330	15	36	17 261	15 064	15
Viet Nam	36	2 764	2 633	5	42	1 730	1 611	7	33	25 038	23 756	5	39	15 360	14 232	8
Israel	37	2 611	2 688	-3	32	2 593	2 651	-2	39	18 109	17 926	1	34	17 707	17 530	1
Finland	38	2 594	2 568	1	34	2 527	2 465	3	34	20 973	20 386	3	31	20 214	19 273	5
Belgium	39	2 302	2 132	8	37	2 302	2 132	8	52	9 302	8 494	10	50	9 302	8 494	10
Austria	40	2 237	2 366	-5	38	2 221	2 349	-5	36	19 068	19 745	-3	32	18 908	19 583	-3
Egypt	41	2 112	1 652	28	39	2 044	1 589	29	38	18 224	13 907	31	35	17 538	13 267	32
Argentina	42	1 935	1 866	4	50	1 160	1 181	-2	37	18 491	17 676	5	47	10 354	10 474	-1
Pakistan	43	1 934	2 022	-4	44	1 642	1 729	-5	40	18 058	18 809	-4	40	15 185	15 917	-5
Peru	44	1 823	1 603	14	47	1 318	1 146	15	44	15 330	13 313	15	46	10 375	8 868	17
Panama	45	1 737	1 448	20	41	1 731	1 443	20	42	16 827	14 061	20	37	16 765	14 007	20
Sri Lanka	46	1 687	1 419	19	43	1 686	1 419	19	47	14 071	11 573	22	43	14 065	11 567	22
Iran (Islamic Republic of)	47	1 567	1 628	-4	57	707	677	4	43	16 251	16 637	-2	54	7 343	6 711	9
Morocco	48	1 417	1 548	-8	45	1 390	1 516	-8	46	14 387	15 546	-7	42	14 105	15 219	-7
Hungary	49	1 389	1 562	-11	46	1 389	1 562	-11	45	15 158	17 021	-11	41	15 158	17 021	-11
Kenya	50	1 330	1 301	2	49	1 280	1 252	2	50	9 979	9 998	0	49	9 510	9 540	0
Bahrain	51	1 295	1 446	-10	48	1 295	1 446	-10	48	11 621	11 960	-3	45	11 621	11 960	-3
Kuwait	52	1 091	1 112	-2	51	1 091	1 112	-2	53	8 945	9 058	-1	52	8 945	9 058	-1
Oman	53	1 066	928	15	52	1 025	895	15	51	9 702	8 457	15	51	9 234	8 078	14
Ukraine	54	1 060	1 001	6	53	1 000	942	6	49	10 227	10 078	1	48	9 616	9 424	2
Jordan	55	968	950	2	54	967	948	2	54	8 611	8 316	4	53	8 598	8 300	4



Country or group of countries	TONNE-KILOMETRES PERFORMED (millions) (passengers, freight and mail)								PASSENGER-KILOMETRES PERFORMED (millions)							
	Total operations (international and domestic)				International operations				Total operations (international and domestic)				International operations			
	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)
Poland	56	799	659	21	55	769	633	22	56	7 116	6 835	4	55	6 776	6 537	4
Kazakhstan	57	754	687	10	64	453	416	9	55	7 333	6 856	7	66	4 215	4 073	3
Mauritius	58	735	788	-7	56	729	782	-7	59	6 107	6 605	-8	57	6 034	6 536	-8
Uzbekistan	59	729	700	4	58	695	670	4	57	6 796	6 055	12	56	6 424	5 733	12
Ecuador	60	685	664	3	61	546	524	4	61	5 717	5 750	-1	67	4 190	4 276	-2
Iceland	61	666	566	18	59	666	566	18	60	5 826	4 970	17	58	5 826	4 970	17
Greece	62	604	693	-13	62	471	534	-12	58	6 289	7 177	-12	61	4 922	5 555	-11
Bangladesh	63	593	589	1	60	569	565	1	62	5 305	5 195	2	59	5 208	5 101	2
Lebanon	64	463	453	2	63	463	453	2	71	3 917	3 827	2	69	3 917	3 827	2
Algeria	65	459	392	17	72	390	332	18	64	4 933	4 195	18	68	4 179	3 532	18
Romania	66	458	435	5	68	437	412	6	65	4 791	4 520	6	63	4 564	4 270	7
Brunei Darussalam	67	448	600	-25	65	448	600	-25	72	3 675	4 988	-26	71	3 675	4 988	-26
Tunisia	68	446	382	17	66	441	376	17	69	4 391	3 767	17	65	4 331	3 701	17
Czech Republic	69	441	556	-21	67	440	556	-21	66	4 755	5 950	-20	62	4 748	5 942	-20
El Salvador	70	437	378	16	69	437	378	16	63	4 937	4 222	17	60	4 937	4 222	17
Trinidad and Tobago	71	419	419	0	70	414	414	0	68	4 463	4 463	0	64	4 406	4 406	0
Fiji	72	415	404	3	71	409	396	3	70	3 956	3 895	2	70	3 908	3 837	2
Venezuela (Bolivarian Republic of)	73	375	498	-25	110	54	73	-27	67	4 589	4 965	-8	108	523	667	-22
Angola	74	351	279	26	73	316	245	29	75	3 193	2 533	26	74	2 813	2 164	30
Nigeria	75	338	322	5	81	167	158	6	73	3 596	3 466	4	80	1 736	1 643	6
Afghanistan	76	321	349	-8	76	286	290	-2	79	2 225	2 617	-15	78	1 948	2 161	-10
Costa Rica	77	310	267	16	74	309	265	17	74	3 432	2 939	17	72	3 418	2 918	17
Latvia	78	288	330	-13	75	288	330	-13	76	3 131	3 598	-13	73	3 131	3 598	-13
Azerbaijan	79	227	191	19	78	202	169	19	77	2 376	2 013	18	76	2 103	1 780	18
Malta	80	218	234	-6	77	218	234	-6	78	2 373	2 537	-6	75	2 373	2 537	-6
Papua New Guinea	81	202	209	-3	88	126	138	-9	87	1 484	1 495	-1	99	750	812	-8
Tajikistan	82	201	231	-13	80	194	225	-14	81	2 011	2 347	-14	79	1 936	2 276	-15
Cyprus	83	197	234	-16	79	197	234	-16	80	2 089	2 380	-12	77	2 089	2 380	-12
Namibia	84	163	148	10	82	158	145	9	84	1 623	1 473	10	83	1 576	1 440	9
Cuba	85	162	193	-16	83	155	171	-9	85	1 620	1 933	-16	84	1 547	1 705	-9
Yemen	86	152	182	-17	85	144	171	-16	82	1 672	2 002	-17	82	1 586	1 890	-16
Mongolia	87	150	90	66	86	136	81	68	86	1 549	912	70	85	1 401	814	72
Albania	88	150	140	7	84	150	140	7	83	1 662	1 553	7	81	1 662	1 553	7
Sudan	89	136	159	-14	97	92	103	-10	97	973	1 146	-15	103	665	766	-13
Croatia	90	134	113	18	90	118	98	20	88	1 312	1 230	7	89	1 154	1 070	8
Syrian Arab Republic	91	132	196	-33	87	131	192	-32	91	1 207	1 789	-33	88	1 198	1 745	-31
Suriname	92	120	114	5	89	120	114	5	96	1 050	1 000	5	91	1 050	1 000	5
Bulgaria	93	119	115	4	92	113	108	4	89	1 288	1 239	4	87	1 222	1 170	5
Belarus	94	114	103	10	91	114	103	10	92	1 111	1 012	10	90	1 111	1 012	10
Serbia	95	113	108	4	93	113	108	4	90	1 230	1 173	5	86	1 230	1 173	5
Libya	96	109	303	-64	100	82	273	-70	94	1 089	3 084	-65	93	818	2 762	-70
Bolivia (Plurinational State of)	97	107	222	-52	112	51	159	-68	93	1 095	2 097	-48	110	485	1 446	-66
Togo	98	106	107	-1	94	106	107	-1	112	574	592	-3	106	574	592	-3
Total for above countries (100) <sup>6</sup>		673 674	651 529	3		462 130	447 183	3		5 334 082	5 083 591	5		3 285 956	3 115 247	5
Total for other countries		12 934	13 703			12 615	13 392			67 715	66 102			64 455	62 940	
Total for 191 ICAO Member States		686 609	665 232	3		474 744	460 576	3		5 401 797	5 149 693	5		3 350 411	3 178 187	5

1. Most 2012 data are estimates, thus the ranking and the rate of increase or decrease may change when final data become available.

2. For statistical purposes, the data for China excludes the traffic for the Hong Kong and Macao Special Administrative Regions (Hong Kong SAR and Macao SAR).

3. Traffic for the Hong Kong Special Administrative Region (SAR).

4. Traffic for the Macao Special Administrative Region (SAR).

5. Three States – Denmark, Norway and Sweden.

6. Includes the States listed in note 5.

Source.— ICAO Air Transport Reporting Forms A and A-S plus ICAO estimates.



**Table 6. Freight tonne-kilometres performed on scheduled services**  
(countries and groups of countries whose airlines performed more than 25 million freight tonne-kilometres in 2012<sup>1</sup>)

Country or group of countries	FREIGHT TONNE-KILOMETRES PERFORMED (millions)							
	Total operations (international and domestic)				International operations			
	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)
United States	1	39 104	39 630	-7	1	23 571	24 111	-12
China <sup>2</sup>	2	15 569	16 765	-1	4	10 252	11 628	-1
Hong Kong SAR <sup>3</sup>		9 499	10 054	-6		9 499	10 054	-6
Macao SAR <sup>4</sup>		26	25	3		26	25	3
Republic of Korea	3	12 291	12 382	-1	2	12 231	12 315	-1
United Arab Emirates	4	11 898	10 416	14	3	11 898	10 416	14
Singapore	5	7 507	7 918	-5	5	7 507	7 918	-5
Germany	6	7 241	7 724	-6	6	7 235	7 716	-6
Japan	7	7 036	6 556	7	8	6 096	5 627	7
United kingdom	8	6 251	6 338	-1	7	6 250	6 336	-1
Netherlands	9	5 989	6 327	-5	9	5 989	6 327	-5
France	10	4 554	4 950	-8	10	4 467	4 867	-8
Luxembourg	11	4 403	4 654	-5	11	4 403	4 654	-5
Qatar	12	4 307	3 637	18	12	4 307	3 637	18
Russian Federation	13	4 132	3 900	6	13	3 357	3 206	6
Thailand	14	2 758	2 871	-4	14	2 698	2 812	-4
Australia	15	2 731	2 847	-4	15	2 568	2 672	-4
Canada	16	1 966	2 034	-3	19	1 556	1 544	-3
Malaysia	17	1 944	2 193	-11	17	1 862	2 080	-11
Turkey	18	1 933	1 545	25	16	1 913	1 525	25
Saudi Arabia	19	1 815	1 501	21	18	1 746	1 431	21
India	20	1 713	1 828	-6	23	1 194	1 342	-6
Chile	21	1 566	1 422	10	20	1 518	1 372	10
Belgium	22	1 368	1 241	10	21	1 368	1 241	10
Brazil	23	1 364	1 483	-8	29	805	903	-8
Switzerland	24	1 353	1 355	0	22	1 353	1 354	0
South Africa	25	1 173	1 073	9	24	1 112	1 014	9
Spain	26	1 142	1 447	-21	25	1 110	1 376	-21
Colombia	27	1 042	1 027	1	26	989	978	1
Indonesia	28	1 008	898	12	40	312	307	12
New Zealand	29	927	888	4	27	918	880	4
Israel	30	810	883	-8	28	810	883	-8
Italy	31	795	761	5	30	794	759	5
Finland	32	687	740	-7	31	686	740	-7
Ethiopia	33	677	506	34	32	677	505	34
Philippines	34	533	470	13	41	310	291	13
Scandinavia <sup>5</sup>	35	523	501	4	33	517	494	4
Viet Nam	36	485	475	2	36	344	327	2
Sri Lanka	37	405	365	11	34	405	365	11
Egypt	38	346	299	16	35	346	298	16
Kenya	39	334	303	10	37	330	299	10
Portugal	40	325	360	-10	39	315	349	-10

Country or group of countries	FREIGHT TONNE-KILOMETRES PERFORMED (millions)							
	Total operations (international and domestic)				International operations			
	Rank number in 2012	2012	2011	Increase or decrease (%)	Rank number in 2012	2012	2011	Increase or decrease (%)
Austria	41	322	383	-16	38	322	383	-16
Bahrain	42	307	418	-26	42	307	418	-26
Peru	43	302	277	9	43	287	264	9
Mexico	44	282	291	-3	47	199	214	-3
Pakistan	45	277	298	-7	45	250	270	-7
Kuwait	46	268	278	-3	44	268	278	-3
Argentina	47	224	235	-4	46	206	219	-4
Oman	48	199	172	16	48	198	171	16
Jordan	49	188	196	-4	49	188	196	-4
Mauritius	50	172	178	-3	50	172	178	-3
Ecuador	51	171	148	15	51	163	139	15
Ireland	52	122	123	-1	52	121	122	-1
Afghanistan	53	117	109	7	55	107	93	7
Brunei Darussalam	54	116	150	-22	53	116	150	-22
Bangladesh	55	115	120	-4	56	100	105	-4
Uzbekistan	56	111	154	-28	54	111	154	-28
Iceland	57	98	82	20	57	98	82	20
Poland	58	92	39	133	58	92	39	133
Fiji	59	91	85	7	59	89	83	7
Iran (Islamic Republic of)	60	80	84	-5	61	70	73	-5
Ukraine	61	76	81	-7	60	75	81	-7
Angola	62	64	51	25	62	63	50	25
Panama	63	54	42	29	63	54	42	29
Togo	64	54	53	1	64	54	53	1
Lebanon	65	51	48	6	65	51	48	6
Kazakhstan	66	49	51	-4	68	36	38	-4
Zimbabwe	67	47	45	6	66	47	45	6
Morocco	68	41	41	0	67	40	40	0
Papua New Guinea	69	29	32	-11	69	28	31	-11
Suriname	70	25	23	7	70	25	23	7
Total for the above countries (72) <sup>6</sup>		175 678	176 880	-1		149 582	151 059	-1
Total for other countries		6 752	7 652			6 721	7 621	
Total for 191 ICAO Member States		182 429	184 532	-1		156 302	158 680	-1

1. Most 2012 data are estimates, thus the ranking and the rate of increase or decrease may change when final data become available.
2. For statistical purposes, the data for China excludes the traffic for the Hong Kong and Macao Special Administrative Regions (Hong Kong SAR and Macao SAR).
3. Traffic for the Hong Kong Special Administrative Region (SAR).
4. Traffic for the Macao Special Administrative Region (SAR).
5. Three States – Denmark, Norway and Sweden.
6. Includes the States listed in note 5.

Source.— ICAO Air Transport Reporting Forms A and A-S plus ICAO estimates.

**Table 7. Estimated international non-scheduled revenue passenger traffic, 2003–2012**

Category	Millions of passenger-kilometres performed									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Non-scheduled traffic <sup>1</sup>	240 720	266 590	262 560	245 105	241 730	223 360	197 690	210 475	221 000	225 378
Annual change (%)	-1.7	10.7	-1.5	-6.6	-1.4	-7.6	-11.5	6.5	5.0	2.0
Scheduled traffic	1 799 463	2 085 577	2 277 450	2 461 159	2 673 979	2 756 842	2 721 677	2 953 162	3 178 187	3 350 411
Annual change (%)	0.1	15.9	9.2	8.1	8.6	3.1	-1.3	8.5	7.6	5.4
Total traffic	2 040 183	2 352 167	2 540 010	2 706 264	2 915 709	2 980 202	2 919 367	3 163 637	3 399 187	3 575 789
Annual change (%)	-0.1	15.3	8.0	6.5	7.7	2.2	-2.0	8.4	7.4	5.0
Non-scheduled traffic as percentage of total	11.8	11.3	10.3	9.1	8.3	7.5	6.8	6.7	6.5	6.3

1. Covers the non-scheduled traffic of scheduled airlines and non-scheduled operators.

Source.— ICAO Air Transport Reporting Form A plus ICAO estimates.

**Table 8. Traffic at world's major airports**

Top 25 airports ranked by total passengers, 2012

Rank No.	City	Airport	Passengers embarked and disembarked <sup>1</sup>			Aircraft movements <sup>2</sup>		
			2012 (thousands)	2011 (thousands)	2012/2011 (%)	2012 (thousands)	2011 (thousands)	2012/2011 (%)
1	Atlanta,GA	Hartsfield-Jackson Atlanta International	95 487	92 389	3.4	930	924	0.7
2	Beijing	Beijing Capital International	81 929	78 675	4.1	557	533	4.5
3	London	Heathrow	69 983	69 391	0.9	471	476	- 1.0
4	Tokyo	Haneda (Tokyo International)	66 795	62 585	6.7	391	380	3.0
5	Chicago,IL	O'Hare International	66 835	66 806	0.0	878	879	- 0.1
6	Los Angeles,CA	Los Angeles International	63 688	61 862	3.0	605	604	0.3
7	Paris	Charles de Gaulle	61 612	60 971	1.1	498	514	- 3.2
8	Dallas/Fort Worth,TX	Dallas-Fort Worth International	58 591	57 774	1.4	650	647	0.5
9	Jakarta	Jakarta Soekarno-Hatta International	57 773	51 533	12.1	380	346	10.1
10	Dubai	Dubai International	57 685	50 978	13.2	344	326	5.5
11	Frankfurt	Frankfurt	57 520	56 436	1.9	482	487	- 1.0
12	Hong Kong	Hong Kong International	56 062	53 329	5.1	362	344	5.1
13	Denver,CO	Denver International	53 156	52 849	0.6	618	635	- 2.6
14	Bangkok	Bangkok Suvarnabhumi International	53 002	47 911	10.6	317	305	3.8
15	Singapore	Changi	51 182	46 544	10.0	325	302	7.6
16	Amsterdam	Schiphol Amsterdam	51 036	49 755	2.6	438	437	0.2
17	New York, NY	John F. Kennedy International	50 819	49 198	3.3	402	409	- 1.8
18	Guangzhou	Guangzhou Baiyun International	48 309	45 040	7.3	373	349	6.9
19	Madrid	Barajas	45 195	49 671	- 9.0	373	429	- 13.1
20	Istanbul	Atatürk International	44 999	37 395	20.3	349	302	15.6
21	Shanghai	Shanghai Pudong International	44 880	41 448	8.3	362	344	5.1
22	San Francisco, CA	San Francisco International	44 477	41 045	8.4	425	404	5.2
23	Charlotte, NC	Charlotte Douglas International	41 228	39 044	5.6	552	540	2.3
24	Las Vegas, NV	McCarran International Las Vegas	41 668	41 480	0.5	528	532	- 0.7
25	Phoenix,AZ	Sky Harbor International	40 422	40 592	- 0.4	450	462	- 2.6
		<b>Total</b>	<b>1 404 332</b>	<b>1 344 699</b>	<b>4.4</b>	<b>12 061</b>	<b>11 909</b>	<b>1.3</b>

## Top 25 airports ranked by international passengers, 2012

Rank No.	City	Airport	Passengers embarked and disembarked <sup>1</sup>			Aircraft movements <sup>2</sup>		
			2012 (thousands)	2011 (thousands)	2012/2011 (%)	2012 (thousands)	2011 (thousands)	2012/2011 (%)
1	London	Heathrow	65 311	64 730	0.9	426	430	- 1.0
2	Dubai	Dubai International	57 685	50 978	13.2	344	326	5.5
3	Paris	Charles de Gaulle	56 323	55 737	1.1	436	451	- 3.2
4	Hong Kong	Hong Kong International	56 062	53 329	5.1	362	344	5.1
5	Singapore	Changi	51 182	46 544	10.0	325	302	7.6
6	Amsterdam	Schiphol Amsterdam	51 035	49 755	2.6	423	420	0.8
7	Frankfurt	Frankfurt	50 995	49 620	2.8	404	405	- 0.2
8	Bangkok	Bangkok Suvarnabhumi International	40 397	36 206	11.6	228	217	5.2
9	Seoul	Incheon International	38 534	34 667	11.2	248	225	10.4
10	Madrid	Barajas	30 689	32 554	-5.7	234	255	- 8.3
11	London	Gatwick	30 411	29 964	1.5	196	199	- 1.7
12	Istanbul	Istanbul Ataturk International	29 717	23 973	24.0	232	198	17.2
13	Tokyo	Narita	29 557	26 344	12.2	173	162	6.7
14	Munich	Franz Josef Strauss	28 730	27 981	2.7	283	288	- 1.9
15	Kuala Lumpur	Kuala Lumpur International	27 986	26 307	6.4	185	173	7.0
16	Rome	Fiumicino	25 165	24 696	1.9	193	197	- 2.2
17	New York NY	John F. Kennedy International	25 076	23 920	4.8	151	149	1.4
18	Zurich	Zurich	24 311	23 796	2.2	255	243	5.2
19	Barcelona	El Prat	23 681	21 718	9.0	191	181	5.6
20	Vienna	Vienna International	21 539	20 454	5.3	229	230	- 0.6
21	Copenhagen	Copenhagen	21 364	20 286	5.3	214	211	1.3
22	Doha	Doha International	21 163	18 109	16.9	156	137	13.8
23	Toronto ON	Toronto Pearson International	21 266	20 357	4.5	224	221	1.2
24	Antalya	Antalya International	20 324	20 587	-1.3	119	122	- 2.7
25	Miami	Miami International Airport	19 372	18 418	5.2	189	184	2.6
		<b>Total</b>	<b>867 874</b>	<b>821 030</b>	<b>5.7</b>	<b>6 418</b>	<b>6 269</b>	<b>2.4</b>

1. Revenue and non-revenue air carrier passengers and passengers in direct transit; scheduled and non-scheduled services.

2. All aircraft movements (commercial and non-commercial).

Source.— ICAO Air Transport Reporting Form I, Airports Council International (ACI) and airport websites.

**Table 9. Operating and net results<sup>1</sup>**  
(scheduled airlines of ICAO Member States)

Year	Operating revenues USD (millions)	Operating expenses USD (millions)	Operating result		Net result <sup>2</sup>	
			Amount USD (millions)	Percentage Of operating revenues	Amount USD (millions)	Percentage Of operating revenues
2003	321 800	323 300	- 1 500	- 0.5	- 7 500	- 2.3
2004	378 800	375 500	3 300	0.9	- 5 600	- 1.5
2005	413 300	408 900	4 400	1.1	- 4 100	- 1.0
2006	465 200	450 200	15 000	3.2	5 000	1.1
2007	509 800	489 900	19 900	3.9	14 700	2.9
2008	569 500	570 600	- 1 100	- 0.2	- 26 100	- 4.6
2009	475 800	473 900	1 900	0.4	- 4 600	- 1.0
2010	563 500	535 900	27 600	4.9	17 300	3.1
2011 <sup>3</sup>	618 100	604 100	14 000	2.3	7 500	1.2
2012 <sup>3,4</sup>	678 900	666 800	12 100	1.8	6 100	0.9

1. Revenues and expenses are estimated for non-reporting airlines.
2. The net result is derived from the operating result by adding (with plus or minus sign as appropriate) non-operating items (such as interest and direct subsidies) and income tax. The operating and net results quoted, are the small differences between the estimates of large figures (revenues and expenses) and are therefore susceptible to substantial uncertainties.
3. The net results for 2011 and 2012 have been provisionally estimated and exclude exceptional accounting items.
4. Complete financial data for 2012 had not been reported to ICAO at the time of writing because of variations in fiscal year reporting.

Source.— ICAO Air Transport Reporting Form EF plus ICAO estimates.

**Table 10. Commercial transport fleet<sup>1</sup> of ICAO Member States  
at the end of each year, 2003–2012**

Year	Number	Turbojet		Turboprop		Total aircraft All types
		Number	Percentage	Number	Percentage	
2003	16 031		84.5	2 941	15.5	18 972
2004	16 757		85.3	2 893	14.7	19 650
2005	17 485		85.9	2 871	14.1	20 356
2006	18 176		86.4	2 861	13.6	21 037
2007	18 926		86.8	2 883	13.2	21 809
2008	19 650		87.1	2 902	12.9	22 552
2009	20 332		87.4	2 932	12.6	23 264
2010	20 904		87.5	2 976	12.5	23 880
2011	21 543		87.7	3 009	12.3	24 552
2012	22 255		88.1	2 997	11.9	25 252

1. Active and parked aircraft are included; aircraft having a maximum take-off mass of less than 9 000 kg (20 000 lb) are not included.

Source.— Reed Business Information (RBI)

**Table 11. Aviation security**

Year	Number of acts of unlawful interference	Number of acts of unlawful seizure		Number of acts of facility attack		Number of acts of sabotage	Other acts <sup>1</sup>	Number of persons injured or killed during acts of unlawful interference	
		Actual seizures	Attempted seizures	Actual facility attacks	Attempted facility attacks			Injured	Killed
1990	36	20	12	1	0	1	2	145	137
1991	15	7	5	1	0	0	2	2	7
1992	10	6	2	1	0	0	1	123	10
1993	48	30	7	3	0	0	8	38	112
1994	43	22	5	4	0	2	10	57	51
1995	17	9	3	2	0	0	3	5	2
1996	22	3	12	4	0	0	3	159	134
1997	15	6	5	2	0	1	1	2	4
1998	17	11	2	1	0	0	3	1	41
1999	14	11	2	0	0	0	1	3	4
2000	30	12	8	1	0	0	9	50	58
2001 <sup>2</sup>	24	7	2	7	4	1	3	3 217	3 525
2002	40	2	8	24	2	2	2	14	186
2003	35	3	5	10	0	5	12	77	20
2004	16	1	4	2	2	4	3	8	91
2005	6	2	0	2	0	0	2	60	3
2006	17	1	3	4	0	1	8 <sup>3</sup>	27	2
2007	22	4	2	2	3	0	11	33	18
2008	23	1	6	3	0	0	13 <sup>3</sup>	31	11
2009	23	5	3	1	0	0	14 <sup>3</sup>	4	3
2010	14	0	1	1	0	1	11 <sup>3</sup>	13	6
2011	6	0	2	0	0	1	3 <sup>3</sup>	152	35
2012	10	1	2	2	0	3	2	44	22

1. Includes in-flight attacks and other acts of unlawful interference.

2. Official reports on the events of 11 September 2001 in the United States did not include the number of deaths and injuries on the ground. Therefore, estimated totals were taken from media sources.

3. Includes attempted sabotage.



## APPENDIX 2. TECHNICAL COOPERATION PROJECTS

### AFGHANISTAN

#### **Civil Aviation Purchasing Service (CAPS)**

##### ***Project goal***

The objective of this project, funded by the Ministry of Transport and Civil Aviation (MoTCA), was to procure electronic equipment for Kabul International Airport. This project, which began in 2006, was completed.

##### ***Project achievements***

Doppler very high frequency omnidirectional radio range/distance measuring equipment (DVOR/DME) and spare parts for airfield ground lighting (AGL) systems at Kabul International Airport were delivered.

### ANGOLA

#### **Assistance to the National Institute of Civil Aviation (INAVIC) Angola in Safety Oversight**

##### ***Project goal***

The objective of this project, funded by the Government of Angola, was to provide assistance to the Angolan Civil Aviation Authority in the development of regulations for the operation and certification of air navigation services and aerodromes as well as guidance material for inspectors to carry out certification and continuous surveillance functions in these areas. This project, which began in November 2011, was completed.

##### ***Project achievements***

Corrective actions were proposed in order to rectify the deficiencies identified in the ICAO Universal Safety Oversight Audit Programme (USOAP) report. New regulations, inspector handbooks, manuals and checklists for certification and continuous surveillance were developed in the domains of air navigation services, aerodromes, aeronautical information services and aeronautical charts (AIS/MAP) and communications, navigation and surveillance (CNS). Proposals were made for the implementation of a safety management system, a quality management system, a search and rescue organization and a MAP organization.



**ARGENTINA****Establishment of a New National Civil Aviation Administration (ANAC)*****Project goal***

The objective of this project, funded by the Government of Argentina, is to create a new entity responsible for the national civil aviation regulations and the provision of safety oversight services, including the transfer of all duties and responsibilities carried out in this regard by the “Comando de Regiones Aéreas de la Fuerza Aérea Argentina”. The project, which began in September 2007, has been extended through January 2014.

***Project achievements***

Training of local personnel in safety management systems (SMS) was carried out. Assistance in the implementation of the State safety programme (SSP) was provided to ANAC by one international expert. New audio control consoles were implemented. A voice communication switching (VCS) system and spare parts were procured with the corresponding maintenance services. Two firefighting vehicles were purchased and delivered.

**Constitution of a New Civil Aviation Accident Investigation Board (JIAAC)*****Project goal***

The objective of this project, funded by the Government of Argentina, is to enable the establishment of the new civil aviation accident investigation board (JIAAC), which was transferred from the “Fuerza Aérea Argentina” as an independent entity under the “Secretaría de Transporte, Ministerio de Planificación Federal, Inversión Pública y Servicios”. The project also supports the JIAAC in obtaining human resources, logistics, equipment, infrastructure and systems to allow it to continue to efficiently carry out its responsibilities and strengthen its activities in civil aviation accident prevention. The project began in September 2011 with an expected duration of two years.

***Project achievements***

The efficiency of JIAAC operations was secured through the recruitment of technical and operational investigators as well as administrative and national professionals. Equipment, furniture and other items foreseen in the project's procurement plan were purchased. A draft of a new organizational structure for the Board was prepared.

### **Assistance from the Argentinean Air Force to the National Civil Aviation Administration**

#### ***Project goal***

The objective of this project, funded by the Government of Argentina, is to provide support services to the National Civil Aviation Administration (ANAC), the new air navigation services provider of Argentina and the State Airline (LADE) in promotional activities that integrate remote communities within the national territory. The project comprises the recruitment of national professionals, acquisition of equipment, maintenance of services and training. This project, which began in July 2009 with an expected duration of three years, has been extended to the end of 2016 with a revised objective.

#### ***Project achievements***

A contract for scheduled and unscheduled maintenance of flight inspection aircraft was issued. A schedule was prepared for simulator time for flight inspection crews and for the specific training of flight check inspectors. Very high frequency (VHF), ultra high frequency (UHF) and high frequency (HF) communication systems, computers, weather stations, emergency locator beacons, spare parts for Cessna, Piper and Learjet, equipment for search and rescue and ground support equipment were procured. General overhaul and integral maintenance were performed on Twin Otter aircraft.

### **ARUBA**

#### **Assistance to the Departamento Meteorologico Aruba**

#### ***Project goal***

The objective of this project, funded by the Government of Aruba, is to determine the requirements for the implementation of an ISO 9001:2008 compliant quality management system (QMS) for the provision of meteorological services for international air navigation and to guide the meteorological service provider throughout the implementation process including the preparation of the QMS documentation, formal application of quality procedures, deployment of quality functions, monitoring and measurement of the results and initiation of the improvement actions. This project began in 2012 with an expected duration of 1.5 months.

#### ***Project achievements***

QMS documentation was prepared, including a Quality Management Manual (QMM) in compliance with ISO 9001:2008 requirements.

**BAHAMAS****Civil Aviation Purchasing Service (CAPS)*****Project goal***

The objective of this project, funded by the Bahamas Civil Aviation Department (BCAD), is to procure equipment to strengthen the aeronautical authorities. This project, which began in April 2010, is ongoing.

***Project achievements***

A sealed tender was issued for the procurement of a primary radar system. A bidders' short list was compiled and the contract awarded.

**Assistance to the Civil Aviation Department of Bahamas*****Project goal***

The objective of this project, funded by the Bahamas Civil Aviation Department (BCAD), is to contract an air traffic services (ATS) expert to prepare all the requirements associated with the implementation of the ICAO New Flight Plan format. The project, which began in July 2012, was completed.

***Project achievements***

During two missions carried out in the Bahamas, the ATS expert prepared all requirements associated with the implementation of the ICAO New Flight Plan format, as well as contingency and transition procedures, and coordinated its implementation.

**BOLIVIA (PLURINATIONAL STATE OF)****Development of National Aviation*****Project goal***

The objective of this project, funded by the Government of the Plurinational State of Bolivia, was to continue to enable the Directorate General of Civil Aviation (DGCA) to efficiently perform its safety oversight responsibilities and to strengthen the development of national aviation. This project, which began in December 2009 with an expected duration of 38 months, was completed.

***Project achievements***

The administration of 127 professionals and 91 administrative national support staff was carried out through the project. ICAO experts assisted the Government

of Bolivia in the re-engineering of the Air Navigation Services Provider and the revision of the national legal framework for aviation. Training was provided to approximately 70 nationals covering the subjects of air and space law, ramp security, training techniques, operations inspectors, airworthiness inspectors, and inspection procedures.

## **COSTA RICA**

### **Master Plan for the Daniel Oduber Quiros International Airport in Liberia City**

#### ***Project goal***

The objective of this project, funded by the Central American Corporation for Air Navigation Services (COCESNA), is to develop a Master Plan to expand the capacity of the Daniel Oduber Quiros International Airport in order to qualify for larger aeroplanes, as well as to meet the demands of the North Pacific Region with regard to the State's economic, tourism and commercial development. This project, which began in March 2008, was completed in December 2010 and reinstated in 2011 for an expected duration of two years.

#### ***Project achievements***

Due to the reorientation of government priorities, implementation activities in 2012 were minimal.

### **Development of the Juan Santamaria International Airport (AIJS)**

#### ***Project goal***

The objective of this project, funded by the "Technical Council of Civil Aviation" (CETAC), is to carry out civil works at the Juan Santamaria International Airport at San José in order to provide better services and meet demands with regard to the State's economic, tourism and commercial development. This project began in August 2011 with an expected duration of five years.

#### ***Project achievements***

A contract for the construction of a remote apron and related works was signed, and the construction of a new building to move the current hangar installations of the "Cooperativa Autogestionaria de Servicios Aeroindustriales" (COOPESA) at the AIJS is in progress.

**International Airport of the South Zone*****Project goal***

The objective of this project, funded by the Government of Costa Rica, is to develop an international airport in the Brunca Region of Costa Rica, including environmental, social and economic impact studies, technical feasibility studies, and design and construction of the airport in a “completely green concept,” respecting all sensitive ecological and archaeological conditions of this zone. This project began in August 2011 with an expected duration of five years.

***Project achievements***

A study of the environmental and aviary impacts of the construction of this airport is in progress. Technical specifications for a social and economic impact study were prepared.

**Management Office of ICAO Projects*****Project goal***

The objective of this project is to provide administrative support to ICAO technical cooperation projects in Costa Rica through the recruitment of international and national expertise. This project began in August 2011 with an expected duration of six years.

***Project achievements***

Support was provided to ongoing projects in Costa Rica through national professionals recruited locally. This project was cancelled by the Government in October 2012.

**CURAÇAO (THE NETHERLANDS)****Assistance to the Curaçao Airport Holding NV (CAH)*****Project goal***

The objective of this project, funded by the Curaçao Airport Holding, was to assess the actual operational performance of the radar and the site surroundings and to provide recommendation(s) and guidance to assist Curaçao Airport Holding, the Civil Aviation Authorities and the Ministry of Infrastructure in their initiatives for the commercial development of airport property and surrounding unused land. The project, which began in March 2012 with an expected duration of one week, was completed.

**Project achievements**

A mission was conducted to evaluate and review the Airport Master Plan and the Airport Layout Plan, topographic plans of the airport and surrounding areas and reports of the Curaçao International Airport, with a view to defining the optimum siting of the radar system and to ensure its optimum performance in accordance with operational requirements. The mission also identified blind areas of radar detection. A mission report was submitted to the Curaçao Airport Holding.

**ECUADOR****Strengthening of the Civil Aviation Sector****Project goal**

The objective of this project, funded by the Government of Ecuador, is to provide assistance to the Directorate General of Civil Aviation of Ecuador, in support of the Government's national strategies and economic development plans for the air transport sector, civil aviation programmes and projects, including aeronautical and airport infrastructure, airspace management processes, safety oversight and human resources, at the technical, operational and organizational level. The project began in October 2011 with an expected duration of three years.

**Project achievements**

A contract for the provision of an integrated simulator system for the air traffic control (ATC) system was signed. This contract includes: construction of the simulators centre's physical infrastructure; provision of technical equipment and airfields modelling in the simulator systems; and training of the Authority's technical staff in operation and maintenance of the integrated simulators centre.

**Technical Assistance for the Preparation of the e-Border e-Passport Project****Project goal**

The objective of this project, funded by the Government of Ecuador, was to carry out an assessment and prepare a work plan and project document for the implementation of e-Border and e-Passport systems in Ecuador. This project, which started in 2011 with an expected duration of 45 days, was completed.

**Project achievements**

A project proposal was prepared for the Government's consideration, based on the results of the studies on e-Border, e-Passport and e-Government systems conducted by international experts.

**EGYPT****Runway Safety Assessment*****Project goal***

The objective of this project, funded by Cairo Airport Company, was to conduct a safety assessment of the condition of the runways at the Cairo Airport and determine their compliance with the relevant ICAO Standards and Recommended Practices (SARPs). The project started in November 2012 with an expected duration of two weeks and was completed.

***Project achievements***

An aerodrome civil engineer was deployed to ensure that the conditions of the runways at the Cairo Airport are in compliance with ICAO SARPs and related guidance material.

**EQUATORIAL GUINEA****Reinforcement of National and Institutional Capacity in Civil Aviation*****Project goal***

The objective of this project, funded by the Government of Equatorial Guinea, is to establish an autonomous Civil Aviation Authority (CAA), with the appropriate level of staffing and competency for the performance of its safety oversight functions in the areas of operations and airworthiness of aircraft and for the licensing of aircraft and flight operations personnel. Originally funded under a cost-sharing arrangement between the Government and the United Nations Development Programme, which expired in 2009, this project began in 2004 and has been extended through December 2013.

***Project achievements***

An autonomous CAA was established. Progress was made in the certification and recertification of Equatoguinean operators in accordance with ICAO Standards and Recommended Practices (SARPs) and national regulations. The 2012 Operational Safety Programme was approved and implemented. The CAA recertified aircraft used in general and commercial aviation. The certification and surveillance of maintenance organizations and airworthiness management organizations is in force. Regulations RACGE M and 145 were improved and a second edition was approved. Type Certificate validations progressed. Audits and inspections were performed in the areas of flight operations (OPS) and airworthiness (AIR). The development of on-the-job training (OJT) programmes for operations and airworthiness personnel progressed. The Civil Aviation Law



was approved by the Council of Ministers and submitted to Parliament for approval. The corrective action plan for the 2007 USOAP audit findings for OPS/AIR was revised and updated.

## **ETHIOPIA**

### **Radar Approach and Area Control Training**

#### ***Project goal***

The objective of this project, funded by the Government of Ethiopia, is to ensure the sustainable provision of air traffic services (ATS) using the installed radar and automatic dependent surveillance — broadcast (ADS-B) facilities. This project began in July 2012 with an expected duration of 10.5 months.

#### ***Project achievements***

National rules governing the use of ADS-B were developed and published in the national aeronautical information publication (AIP). Provisions for the new surveillance ratings (radar and ADS-B) were introduced in the national personnel licensing regulations. Two training courses on surveillance control using radar and ADS-B were designed based on national and international rules and were approved by the Ethiopian Civil Aviation Authority. Sixteen controllers received training in a combined radar and ADS-B course.

## **GREECE**

### **Capacity Building in Safety Oversight**

#### ***Project goal***

The objective of this project, funded by the Government of Greece, is to further develop the capability of the Hellenic Civil Aviation Authority (HCAA) to provide safe, efficient and cost-effective aviation services, to regulate flight safety functions and to ensure that it is in conformity with ICAO Standards and Recommended Practices (SARPs). This project, which began in 2000, has been extended through June 2013.

#### ***Project achievements***

The project continued to provide support to the HCAA to exercise its safety oversight responsibilities in the field of aircraft flight operations and with the development of a sustainable airworthiness system. Expert services were provided by one airworthiness inspector, four cabin safety inspectors, three flight operations inspectors, two aviation doctors and one librarian.

**GUATEMALA****Integral Modernization of the National Airports System*****Project goal***

The objective of this project, funded by the Government of Guatemala, is to assist in the planning and modernization of airport facilities and services at Cobán, Esquipulas, Huehuetenango, Puerto Barrios, Quetzaltenango and Retalhuleu domestic airports, in accordance with applicable international Standards and Recommended Practices (SARPs). This project, which began in 2005, has been extended through February 2013.

***Project achievements***

Several equipment contracts were finalized, among them were: the installation of parts for electric escalators, benefiting operations; the finalization of the ring system of half tension and the backup power system of the International Airport of La Aurora, reducing energy costs; and works on the baggage handling system, enhancing security procedures and operations at the airport.

**Modernizing the National Airports System of Guatemala*****Project goal***

The objective of this project, funded by the Government of Guatemala, is to finalize the civil works of the International Airport of La Aurora. This project, which began in June 2005, has been extended through February 2013.

***Project achievements***

Civil works and remodeling of the offices on the first level of the international airport were finalized. The facilities of the building which houses the Directorate General of Civil Aviation of Guatemala (DGAC) were improved to optimize customer service.

**HAITI****Provide Assistance to the Office National de l'Aviation Civile (OFNAC) and the Autorité Aéroportuaire Nationale (AAN)*****Project goal***

The objective of this project, funded by the World Bank/Office Nationale de l'Aviation Civile (OFNAC), is to provide an assessment of the damage to key



navigational and communication infrastructure, including visual aids for air navigation, aerodrome installations, services and equipment, as well as damage to associated access roads to Port-au-Prince/Toussaint Louverture International Airport and public parking areas as a result of the earthquake of January 2010, as well as to provide recommendations, as appropriate. The project will also provide an assessment of the organizational structure and training needs in the air traffic management field, its technical personnel and any other field relevant to the operation and maintenance of the improvements being considered and will provide recommendations, as appropriate. This project, which began in 2011, with an expected duration of three months, has been extended to March 2013.

### ***Project achievements***

A mission was deployed to review existing ICAO documentation available on the condition of the Haitian aviation system following the 2010 earthquake and to evaluate the aeronautical telecommunications needs, including two VHF omnidirectional range (VOR)/distance measuring equipment (DME) units, one instrument landing system (ILS) unit, approach lights, power supplies and precision approach path indicator (PAPI), air traffic management (ATM) and technical personnel training needs, and the runway end safety areas (RESA). Technical specifications required for tender processes were prepared. A mission report, including technical specifications and evaluation criteria, was completed and submitted to the World Bank and OFNAC.

## **INDIA**

### **Establishment of Air Navigation Services (ANS) Safety Oversight Capability**

#### ***Project goal***

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA) of India, is to provide assistance to the DGCA in the establishment and effective functioning of an air navigation services (ANS) directorate in the performance of its ANS regulatory and safety oversight duties, functions and responsibilities, and in the implementation of the corrective action plan to address the ICAO Universal Safety Oversight Audit observations and recommendations. The project, which began in October 2010 with an expected duration of twelve months, has been extended through 2013.

#### ***Project achievements***

The final draft of the project reports including recommendations on the establishment of an air navigation services (ANS) directorate were submitted to the DGCA for review and comments.

### **Road Map for the Development of General Aviation, Helicopter and Seaplane Services**

#### ***Project goal***

The objective of this project, funded by the Government of India, Ministry of Civil Aviation/Directorate General of Civil Aviation (MoCA/DGCA), was to deliver a road map to MoCA/DGCA and to the Airports Authority of India (AAI) for the development of general aviation, helicopter and seaplane services for the next 25 years. The project, which began in November 2011 with an expected duration of four months, was completed.

#### ***Project achievements***

A project team comprising four international experts and four national professionals completed the study on general aviation, helicopter and seaplane services and the Project Terminal Report was submitted to DGCA India.

### **ICAO-India Developing Countries Training Programme**

#### ***Project goal***

The objective of this project, which is funded by the Airports Authority of India (AAI), is for ICAO to assist in the administration of a programme to train participants from developing countries selected by the India Aviation Academy (IAA), at New Delhi. The assistance covers the distribution of information to ICAO Member States and the issuance of letters of fellowship awards and letters of rejection. This project, which began in October 2008 with an expected duration of three years, has been extended through September 2013.

#### ***Project achievements***

A training expert and a certified safety management systems (SMS) instructor supported AAI in the development and delivery of two courses conducted at IAA. A total of twelve fellowships were awarded by ICAO to participants from eleven developing countries for instructor and SMS courses.

## **INDONESIA**

### **Enhancement of Safety Oversight Capability of the Directorate General of Civil Aviation**

#### ***Project goal***

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA), is to enhance its capability in flight safety oversight through improved

organization, increased availability of properly trained and well-qualified safety oversight inspectors and surveyors, updated legislation, regulations and procedures, and to improve implementation and compliance with ICAO Standards and Recommended Practices (SARPS), guidance material and the Global Aviation Safety Plan (GASP) in order to take a proactive approach to flight safety and the reduction of aircraft accidents. The project, which began in 2009 with an expected duration of three years, was extended through February 2014.

### ***Project achievements***

International experts in the fields of air navigation, airports and airworthiness were recruited for the project. Documentation required for the implementation of performance-based navigation (PBN) and required navigation performance (RNP) was prepared. Three national experts, two in airworthiness and one in operations, were recruited and commenced a complete revision of the Indonesian safety inspector guidance system, including new guidance material for cabin safety inspectors. Training programmes were developed to meet the demands of this new inspector guidance system and the certification, administration and surveillance under the system. ICAO Universal Safety Oversight Audit Programme (USOAP) findings were addressed together with the DGCA, and Indonesian Civil Aviation Safety Regulations, staff instructions and advisory circulars were updated.

### **Civil Aviation Transformation Team (CATT) for the Implementation of a Civil Aviation Strategic Action Plan**

#### ***Project goal***

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA), was to provide assistance to the DGCA in the establishment of a civil aviation transformation team (CATT) for the effective management and implementation of the DGCA's civil aviation strategic action plan (CASAP), which provides a roadmap for the enhancement of Indonesia's capabilities in the fields of aviation safety and security, to a level consistent with international and national requirements. The project, which began in June 2009 with a planned duration of two years, was extended through October 2012 and was completed.

#### ***Project achievements***

Implementation of the national aviation safety programme and safety management systems for all aviation service providers continued. A mechanism was established through the project to adequately monitor the transition of the ICAO Universal Safety Oversight Audit Programme from the comprehensive system approach (CSA) to the continuous monitoring approach (CMA), including the nomination by the DGCA of national continuous monitoring coordinators to monitor the CMA and ISTARs website and periodically update the corrective action plans. Procedures for the management of ICAO State Letters were implemented within the DGCA as well as a procedure for ensuring

that the civil aviation regulations and procedures remain current and continue to comply with ICAO SARPs.

### **Indonesia-ICAO Developing Countries Training Programme**

#### ***Project goal***

The objective of this project, which was funded by the Human Resources Development in Transportation Agency (HRDTA), Ministry of Transportation, was for ICAO to assist in the administration of a programme to train participants from developing countries selected by the Air Transportation Human Resources Development Centre (ATHRDC). The assistance covers the distribution of information to ICAO Member States and the issuance of letters of fellowship awards and letters of rejection. The project, which began in July 2012, was completed.

#### ***Project achievements***

Fifty-four fellowship awards were issued by ICAO to participants from 13 developing countries for training conducted at the Air Transportation Human Resources Development Centre, Curug, the Aviation Technical and Safety Academy (ATSA) of Medan and the Aviation Technical and Safety Academy (ATSA) of Surabaya in the disciplines of aviation internal auditor, flight operation inspector, safety management system, senior civil aviation management and senior management of aviation security.

## **ITALY**

### **Threat and Error Management (TEM) in Air Traffic Control Training Course**

#### ***Project goal***

The objective of this project, funded by Ente Nazionale per l'Aviazione (ENAV) Societa Nazionale per L'Assistenza Al Volo (ENAV S.p.A.) of Italy, was to provide ENAV S.p.A. personnel with threat and error management (TEM) operational training in order to assist in understanding, from an operational perspective, the interrelationship between safety and human performance in a dynamic and challenging operational context. This project, which began in December 2011, was completed.

#### ***Project achievements***

An instructor in threat and error management (TEM) in air traffic control assisted ENAV S.p.A. in the provision of a “training the trainers” course to selected personnel including professionals who will be assigned as air traffic control instructors as well as personnel from regulators and/or service providers.



**JORDAN****Assessment of the North Runway at Queen Alia International Airport*****Project goal***

The objective of this project, funded by the Government of Jordan, was to conduct an evaluation of the north runway at Queen Alia International Airport to determine the runway's compliance with ICAO Standards and Recommended Practices (SARPs) and other international standards as well as with certification requirements. The project began in December 2012 with an expected duration of one month and was completed.

***Project achievements***

A civil engineer and an aerodromes engineer jointly reviewed existing evaluations and performed an independent evaluation of the north runway. A draft report on the runway's level of compliance with applicable ICAO SARPs was submitted to the Government of Jordan for review and approval.

**KAZAKHSTAN****Strengthening of Kazakhstan's Civil Aviation Capacity*****Project goal***

The objectives of this project, which is funded by the Kazakhstani state enterprise "Kazaeronavigatsia", are: to review the air operator certificates (AOCs) and associated operations specifications, maintenance organization certificates (MOCs), and all certificates of airworthiness (CofAs) to ensure full compliance with national regulations and applicable ICAO provisions; to implement the State's corrective action plan in the areas of operations (OPS) and airworthiness (AIR), with particular emphasis on resolving the two significant safety concerns (SSCs); and to assist the State to adequately prepare to receive an ICAO coordinated validation mission. The project, which began in December 2012, has an expected duration of one year.

***Project achievements***

The project coordinator, a flight operations inspector and two airworthiness operators were recruited. Technical guidance material pertaining to aircraft operations and airworthiness was revised.

**LEBANON****Civil Aviation Purchasing Service (CAPS)*****Project goal***

The objective of this project, funded by the Government of Lebanon, is to procure aviation security equipment. This project, which began in 1988, is ongoing.

***Project achievements***

Aviation security equipment with associated services were delivered to the Directorate General of Civil Aviation of Lebanon.

**Reactivation of the Civil Aviation Safety Centre (CASC)*****Project goal***

The objective of this project, funded by the Government of Lebanon, is the reactivation of the Civil Aviation Safety Centre (CASC). The project will address directly issues related to human resources development and transfer of technology to Lebanon. This project, which began in 2002, has been extended through December 2013.

***Project achievements***

ICAO continued to provide administrative support. The reassessment of needs concerning further deployment of international experts and development of procurement activities by the new civil aviation authorities progressed.

**Strengthening of the Civil Aviation Sector*****Project goal***

The objectives of this project, funded by the Government of Lebanon, are to strengthen the safety oversight capability of the Flight Safety Directorate, to enhance the safety and efficiency of Beirut International Airport, to update safety oversight regulations, procedures and manuals ensuring their compliance with international requirements, as well as to reactivate the Civil Aviation Safety Centre (CASC). This project, which began in 2004, has been extended through December 2013.

***Project achievements***

ICAO continued to provide administrative support. The reassessment of needs concerning further deployment of international experts and development of procurement activities by the new civil aviation authorities progressed.





**LIBYA****Assistance to Civil Aviation*****Project goal***

The objective of this project, funded by the Government of Libya, was to discuss, assess and prioritize with the Libyan authorities the detailed requirements per sector to further develop the proposal for the development and implementation of a Civil Aviation Master Plan (CAMP) for Libya. The project, which began in August 2012 with an expected duration of two weeks, was completed.

***Project achievements***

Three experts undertook a mission to review and assess the detailed requirements per sector of the Libyan authorities in order to further develop the proposal for the development and implementation of a CAMP.

**MADAGASCAR****Assistance for the Review of the Madagascar Civil Aviation Act*****Project goals***

The objective of this project, funded by the ICAO Safety Fund (SAFE), was to review the Civil Aviation Act of Madagascar and provide the Madagascar Civil Aviation Authority (CAA) with a report. The project, which began in March 2012 with an expected duration of five days, was completed.

***Project achievements***

An air law expert was recruited to perform a desk-review of the Madagascar Civil Aviation Act. As a result, a report was produced highlighting the positive and negative aspects of the Act. The report also provided recommendations to remedy any shortcomings in order for the revised Civil Aviation Act to comply with international requirements.

**MEXICO****TRAINAIR PLUS Programme for the Aeropuertos y Servicios Auxiliares (ASA)*****Project goal***

The objective of this project, funded by the Government of Mexico, is to advise and assist the “Centro Internacional de Instrucción de Aeropuertos y Servicios

Auxiliares” (CIIASA) in the delivery of the TRAINAIR Plus Training Developer Course and to advise on the development of the standardized training packages (STPs). This project, which began in 2008 with an expected duration of 12 months, assisted ASA to achieve full membership in the ICAO TRAINAIR Programme in 2009 and has been extended through December 2013 with a revised objective.

#### ***Project achievements***

The first TRAINAIR Plus Training Developer Course was delivered at CIIASA. Fifteen new national course developers prepared the first three sets of TRAINAIR PLUS STPs under the project. Assistance was provided to address CIIASA's Course Development Unit and Course Developers Team Work in the development of three STP designs: Aviation Fuel Management STP, Operations and Airport Complementary Services STP, and Electromechanical Maintenance and Visual Aids STP. Following the delivery of the “Aviation Fuel Management STP”, ten new aviation fuel specialists were certified, and the TRAINAIR PLUS Central Unit certified CIIASA as an ICAO TRAINAIR PLUS Full Member. A visit to ASA's Aviation Fuels Central Analysis Laboratory and Aviation Fuels Central Station facilities was carried out and resulted in the recommendation that CIIASA become a training base to address training needs in designing other courses for complementing the existing instructional material.

#### **Technical Cooperation Assistance — Machine Readable Travel Documents (MRTD)**

##### ***Project goal***

The objective of this project, funded by the Government of Mexico, was to provide assistance regarding the review of passport issuance, including the current procedures for passport issuance, passport personalization, security and control or inputs (booklets and laminates). This project, which began in March 2011 with an expected duration of one month, was completed.

##### ***Project achievements***

A review of passport issuance procedures was conducted. As a result of the assessment, the Government of Mexico engaged in activities for developing and managing new security standards prior, during and after the issuance process, which require the participation of all government officials located in the issuance offices as well as constant feedback with headquarters staff. Internal control pilot programmes have been initiated.

**Modernization of the Training System of the Directorate General of Civil Aviation (DGCA) Mexico*****Project goal***

The objective of this project, funded by the Government of Mexico, is to assist the Directorate General of Civil Aviation (DGCA) in addressing the observations and deficiencies related to air traffic management (ATM) which were identified during a mission carried out by the North American and Caribbean (NACC) Regional Office. This project began in 2012 with an expected duration of five months.

***Project achievements***

An ICAO ATM expert provided training and technical assistance to strengthen the capacity and knowledge of the DGCA aviation personnel in civil aviation matters related to ATM in order to better familiarize the personnel with ATM requirements.

**Technical Cooperation Assistance — Training Personnel of the Directorate General of Civil Aviation (DGCA)*****Project goal***

The objective of this project, funded by the Government of Mexico, is to provide the Directorate General of Civil Aviation (DGCA) the necessary assistance to train DGCA personnel and pilots. The project, which began in September 2012 with an expected duration of five months, has been extended through March 2013.

***Project achievements***

The required training and technical assistance was provided to 293 DGCA personnel and pilots in order to strengthen their capacity and knowledge in civil aviation matters related to ATM, aiming at enhancing the DGCA's safety oversight capabilities.

**MOZAMBIQUE****Support to the Government of Mozambique on Aviation Safety and Security*****Project goal***

The objective of this project, funded by the Government of the Republic of Mozambique, is to provide technical support and to assist the Government in enhancing its aviation safety and security oversight capabilities on the basis of the findings and recommendations of the Universal Security Audit Programme

(USAP) and the Universal Safety Oversight Audit Programme (USOAP). It aims at improving the safety, security, regularity and efficiency of air transport operations in Mozambique in order to better meet the country's air transportation needs and promote its economic, human and social development, as well as encourage the growth of trade and tourism and attract business and investment to the country. This project began in March 2012 with an expected duration of two years.

### ***Project achievements***

The project assisted in the review and amendment of management processes, internal administrative regulations and procedures, the organizational structure and related duties and responsibilities of the Government's regulatory agency, the "Instituto de Aviação Civil de Moçambique" (IACM), as well as in the development of a training plan. Recruitment of new staff in the air navigation field was initiated. A management development plan was prepared. Cooperation and consultation with industry progressed in a systematic manner. The current state of aeronautical information management (AIM) publications was addressed. Flight safety regulations were reviewed and amendments proposed. Corrective action plan (CAP) items were amended and accepted by ICAO. A comprehensive aviation security work plan was developed. Standard operations procedures for the screening of passengers and baggage were developed and implemented. Drafts of the national civil aviation security and national quality control programmes were completed for approval by the authorities. Training programmes were implemented including on-the-job training of flight safety personnel and ICAO AVSEC Standardized Training Package (STP) courses on national inspectors and crisis management for two AVSEC personnel. A Basic ICAO AVSEC STP course was provided for Maputo International Airport staff.

## **NAMIBIA**

### **Safety Oversight and Security**

#### ***Project goal***

The objective of this project, funded by the Government of Namibia, is to assist the Directorate of Civil Aviation (DCA) in the reinforcement of its safety and security oversight capabilities. It comprises an assessment phase to identify remaining shortfalls after the ICAO Universal Safety Oversight Audit Programme (USOAP) audit conducted in 2006, followed by the implementation of corrective actions to address these shortfalls, and a second phase to establish a sustainable certification and surveillance system. The project, which began in 2009, has been extended through December 2014.

***Project achievements***

Further amendments to the Civil Aviation Bill in the areas of airworthiness, aerodromes, personnel licensing and flight operations were proposed. Inspector manuals and checklists were developed. Air operator certification guidance material was reviewed and updated. An annual surveillance plan for flight operations inspections was developed. A new aerodrome and safety certification expert was recruited and one operator was certified. The ATC operational assistance (OPAS) team completed training on the new radar surveillance system. Formal training (external, internal and on-the-job training) took place in accordance with the training programmes, and a total of 3 000 man/days' training was delivered in the areas of flight operations, airworthiness, personnel licensing, aerodromes, air navigation services and aviation security.

**NEPAL****Air Traffic Services (ATS) Surveillance and Tribhuvan International Airport (TIA) Approach and Landing Systems — Stage I*****Project goal***

The objective of this project, funded by the Civil Aviation Authority of Nepal (CAAN), was to assist CAAN in the identification and preparation of procurement documentation and tendering activities related to Nepal's surveillance system and the approach and landing system for the Tribhuvan International Airport in Kathmandu. The project, which began in July 2010, was completed.

***Project achievements***

A draft project terminal report including the requested study for the development of technical specifications for the ATS surveillance and TIA approach and landing systems, as well as related documentation and recommendations was submitted to CAAN.

**OMAN****Civil Aviation Development and Technical Support*****Project goal***

The objective of this project, funded by the Government of Oman, is to provide ongoing support to the Public Authority of Civil Aviation in matters related to air traffic control, airport engineering, flight operations and airworthiness, and to contribute to the development of an efficient regulatory agency while encouraging

a safe and economically viable air transportation system. This project, which began in 1993 with a planned duration of eight years, has been extended through December 2013.

#### ***Project achievements***

Two flight operations inspectors continued to assist the project operational assistance (OPAS) personnel and contributed to improving oversight functions in the form of audits and inspections. With the creation of the new independent Public Authority of Civil Aviation at the end of May 2012, the two flight operations inspectors were also involved in the development of the new organizational structure. The development of civil aviation regulations and procedures in compliance with ICAO Standards and Recommended Practices (SARPs) progressed.

#### **Study of Obstruction Limitation Surfaces**

##### ***Project goal***

The objective of this project, funded by the Government of Oman, was to provide a “Study of Obstruction Limitation Surfaces and Land Use Around the Airports of Oman”. This project, which began in November 2010 with an expected duration of two months, was completed.

##### ***Project achievements***

Airport vicinity protection area software was delivered, and a training component was implemented for both administrative and technical staff of the Public Authority of Civil Aviation. Validation of obstacles data prior to operational entry into service of the software was carried out for the relevant ministries for the extension of Muscat International Airport and Salalah International Airport, as well as the new Sohar and Al Duqm airports to enable a decision to be taken on the second stage of the procurement contract.

## **PAKISTAN**

### **Aeronautical Study — High-Rise Buildings around Karachi/Islamabad International Airports**

#### ***Project goal***

The objectives of this project, funded by the Pakistan Civil Aviation Authority (PCAA), were to conduct an aeronautical study to assess the impact of a proposed high-rise construction in and beyond outer horizontal surface on the safety and regularity of aircraft operations at Jinnah International Airport in Karachi in conjunction with military airfields in close proximity as well as around

Benazir Bhutto International Airport in Islamabad; to provide assistance in harmonizing national regulations with ICAO SARPs; and to provide on-the-job training to counterparts. The project, which began in February 2012 for an expected duration of one month, was completed.

#### ***Project achievements***

A mission was undertaken with site visits to Karachi and Islamabad airports to conduct aeronautical studies. National legislation for the safeguarding and control of obstacles in aerodromes was reviewed, and recommendations were made to strengthen its effectiveness in protecting the aerodrome obstacle limitation surfaces from urban developments. Local counterpart training was provided in the form of formal lectures and participation of the counterparts in all stages of the aeronautical studies.

#### **Civil Aviation Purchasing Service Agreement for the Procurement of Complete Primary and Secondary Radar System, three Doppler VHF Omnidirectional Radio Range/Distance Measuring Equipment (DVOR/DME) and two Instrument Landing Systems/Distance Measuring Equipment (ILS/DME)**

#### ***Project goal***

The objective of this project, funded by the Government of Pakistan, is to procure surveillance and navigation equipment to assist the government in the overall improvement of its flight safety standards. This project, which began in April 2010 with an expected duration of 30 months, is ongoing.

#### ***Project achievements***

Following contract negotiations, the Pakistan Civil Aviation Authority (PCAA) is awaiting approval by its board to proceed with this procurement. An extension of the validity of the radar proposal was obtained from the supplier until 31 December 2012.

## **PANAMA**

#### **Operational and Technical Strengthening of the Civil Aviation Authority of the Republic of Panama**

#### ***Project goal***

The objective of this project, which is funded by the Government of Panama, is to assist the Civil Aviation Authority (CAA) to acquire technical, operational and management expertise in the areas of air navigation and aerodromes including communications, navigation and surveillance, safety and aviation security

through the training of specialized technical and operational personnel, expert advice, procurement of equipment for the provision of services, and strengthening of the administrative and executive management of air navigation services and airport operations. The project began in 2009 with an expected duration of three years.

#### ***Project achievements***

Twenty-four new dispatchers and 46 technicians received training in aviation English. Twenty-four controllers received training in radar approach control and 22 controllers in aerodrome controls, while 20 nationals received training in aerodrome inspection. Protection equipment for radars and a security perimeter fence were installed. Forty national professionals in the areas of safety, security and air transport and administrative support staff were contracted through the project. A contract was signed for satellite provision of aeronautical information service (AIS) for Marcos A. Gelabert International Airport in Panama City.

#### **Strengthening of the Tocumen International Airport of Panama**

##### ***Project goal***

The objectives of this project, funded by Tocumen International Airport, are to assist the Government of Panama in the modernization of airport facilities, including the management of projects for the expansion of the airport and the procurement of equipment necessary for its operation, and to ensure that airport operations are carried out in accordance with ICAO Standards and Recommended Practices (SARPs). The project, which began 2003 with an expected duration of one year, has been extended through December 2013.

##### ***Project achievements***

The North Terminal at Tocumen International Airport was opened with expert assistance from ICAO in the design and implementation of the baggage handling system (BHS), now operating at a 95 per cent efficiency. The project procured, implemented and operated 12 passenger gates and a fully coordinated AVSEC system. An ICAO team of ten experts prepared the Airport Master Plan, including guidelines for the construction of the South Terminal infrastructure design and as-build concept. In coordination with the Civil Aviation Authority, the modernization of air traffic management (ATM) and air traffic control (ATC) systems and required navigation performance for area navigation (RNAV-RNP) approaches to the airport was carried out. Seven technical personnel received training in airport management and related disciplines.



## PARAGUAY

### **Operational Technical Assessment on the Current State of the Aeronautical Telecommunications System**

#### ***Project goal***

The objective of this project, funded by the National Directorate of Civil Aviation of Paraguay (DINAC), was to perform a technical evaluation of recently acquired air traffic control automation systems. This project, which began in April 2012 for an expected duration of six months, was completed.

#### ***Project achievements***

A communications, navigation, surveillance (CNS) and air traffic management (ATM) expert carried out an assessment and evaluation of the operation of the new air traffic control automation systems and their compliance with ICAO Standards and Recommended Practices (SARPs) and provided recommendations thereon.

## PERU

### **Modernization of Air Traffic Management**

#### ***Project goal***

The objective of this project, funded by the “Corporación Peruana de Aeropuertos y Aviación Comercial” (CORPAC S.A.), through the Government of Peru, is to modernize air traffic services in order to develop the necessary infrastructure to implement the air traffic management (ATM) system. The project includes human resources training, renewal of the area control centre (ACC), installation of a secondary surveillance radar (SSR) mode S and implementation of air traffic services. This project, which began in July 2009, has an expected duration of five years.

#### ***Project achievements***

The final phase of the site acceptance tests for the eight radar sites, the automatic dependant surveillance – broadcast (ADS-B) site, the integration of the new area control centre building with the air traffic control tower, and the radar simulator were completed. The final acceptance document for the procured systems and services was signed by the both parties.

**Aeronautical strengthening and continuous improvement of safety*****Project goal***

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA) of Peru, is to ensure the necessary technical and professional means for the DGAC to adequately fulfil its responsibilities, including the strengthening of the civil aviation system and continuous improvement of safety levels according to National Civil Aviation regulations and ICAO Standards and Recommended Practices (SARPs). This project began in February 2012 with an expected duration of five years.

***Project achievements***

Training of 70 nationals was carried out in air traffic control (ATC) and quality assessment. Support was provided in the preparation of contingency plans. One-hundred-and-twenty national professionals were contracted through the project which also facilitated work missions and training abroad.

**PHILIPPINES****Civil Aviation Purchasing Service Agreement with Mactan-Cebu International Airport Authority — Procurement of Two Instrument Landing Systems/Distance Measuring Equipment (ILS/DME)*****Project goal***

The objective of this project, funded by the Mactan-Cebu International Airport Authority (MCIAA), is the procurement of various airport runway and air navigation systems in order to assist the MCIAA with the overall improvement of its flight safety system. This project, which began in April 2010 with an expected duration of 15 months, is ongoing.

***Project achievements***

The final site acceptance test (FSAT) including flight check started in January 2012 but could not be completed due to problems with the Philippines' flight calibration aircraft. Alternative proposals were provided to MCIAA for its decision.

**Improvement of Aviation Safety in the Philippines by Enhancing the Capability of the Air Transportation Office (ATO) in Safety Oversight*****Project goal***

The objective of this project, which is funded by the Civil Aviation Authority of the Philippines (CAAP), is to improve aviation safety by enhancing the capability of



the CAAP in safety oversight through updating regulations and procedures; increasing the number of competent inspectors and surveyors; and enhancing the organizational structure and autonomy to achieve effective safety oversight of air operators, aircraft maintenance organizations, approved training organizations, aerodrome operators and air navigation service providers, together with the enforcement of safety regulations, procedures and the application of the ICAO Global Aviation Safety Plan (GASP) principles. This project, which began in May 2008 for an expected duration of two years, was extended through December 2012.

#### ***Project achievements***

Assistance was provided to the CAAP in the development of a corrective action plan (CAP) to address the deficiencies identified in the 2009 audit by the Universal Safety Oversight Audit Programme (USOAP) and in establishing a progressive digital reporting system directed primarily at lifting the significant safety concerns (SSCs). This project is being revised to further enhance the sustainability of results.

### **QATAR**

#### **Assistance to Civil Aviation Authority**

##### ***Project objective***

The objective of this project, funded by the Government of Qatar, was to provide assistance in the formulation of a National Facilitation (FAL) Programme. The project, which started in February 2012 with an expected duration of one month, was completed.

##### ***Project achievements***

An air law expert undertook a mission to develop draft legislation for the setting up of the National Facilitation (FAL) Programme pursuant to ICAO Standards and Recommended Practices (SARPs) and with due regard to Qatar's legal system.

### **REPUBLIC OF KOREA**

#### **ICAO-Republic of Korea Developing Countries Training Programme**

##### ***Project goal***

The objective of this project, which was funded by the Government of the Republic of Korea, was for ICAO to assist the Ministry of Land, Transport and Maritime Affairs of the Republic of Korea (MLTM) in the administration of a programme to train participants from developing countries selected by the MLTM.

This assistance covers the distribution of information to ICAO Member States and the issuance of letters of fellowship awards and letters of rejection. This project, which began in 2012 for an expected duration of one year, was completed.

#### ***Project achievements***

Two-hundred-and-eight fellowship awards were issued by ICAO to participants from 61 developing countries for training conducted at the Korea Civil Aviation Training Centre (KCATC) and the Incheon International Airport Corporation Aviation Academy in the disciplines of Doppler VOR/distance measuring equipment (DME) maintenance, global navigation satellite systems, airport operations, aviation security, radar approach control, Annex 14 — *Aerodromes*, air navigation policy, radar concepts, airport terminal operations, instrument landing systems (ILS) maintenance, electronic safety tools and aviation policy for executives.

## **RWANDA**

### **Enhancement of Air Navigation Services Safety — Phase 1**

#### ***Project goal***

The objective of this project, funded by the Government of Rwanda, was to provide assistance in the planning and subsequent implementation of actions to rectify deficiencies identified through the 2007 ICAO Universal Safety Oversight Audit Programme (USOAP) audit of Rwanda's air navigation services and in the establishment of a system for the State's safety oversight of these services. The project, which began in April 2012 with an expected duration of six months, was completed.

#### ***Project achievements***

A corrective action plan was developed proposing initiatives to address the 2007 USOAP findings. Input was provided in the development of draft air navigation services (ANS) and licensing regulations. A draft Aviation Law was prepared as were safety management systems (SMS)-related regulations. An implementation strategy for introducing a State safety programme (SSP) was developed. A regulatory service unit manual, regulatory service unit training manual and ANS inspector handbook were prepared. An organizational plan and description of functions were prepared for the establishment of a Regulatory Service and Safety Oversight Unit. An SMS Phase 1 implementation plan for air navigation services providers (ANSPs) including a system description and GAP analysis was developed. An SMS manual was prepared. Quality management systems (QMS) manuals were developed for aeronautical meteorological services and aeronautical information services (AIS). The SMS Phase 2, 3 and 4 implementation plans were also developed.

**SAUDI ARABIA****General Authority of Civil Aviation*****Project goal***

The objectives of this project, funded by the Kingdom of Saudi Arabia, are to support the General Authority of Civil Aviation (GACA) in providing safe, efficient and cost-effective aviation services; keep the GACA up to date on changes in the civil aviation environment; prepare the GACA for the introduction of new technologies; and assist the GACA in replacing foreign experts with national experts through professional training of qualified Saudi Arabian counterparts. This project, which began in 1997 with an initial duration of six years, was extended through June 2013.

***Project achievements***

Twenty-three ICAO operational assistance (OPAS) officers worked on this project in 2012. Consultancy services were provided to GACA and Saudi counterparts as required, in support of ongoing capital work projects. Inspections of Saudi-registered aircraft to ensure compliance with ICAO Standards and Recommended Practices (SARPs) continued. Inspections of air carriers and operators and safety oversight of GACA-certified repair stations were performed. The ICAO OPAS officers, together with the Saudi national instructors, provided GACA personnel with complementary training courses in the areas of communications, navigation and surveillance/air traffic management (CNS/ATM), radar/non-radar and simulator. Expertise was provided to GACA on establishing and implementing a professional career enhancement programme for the future development of rescue and firefighting (RFF) personnel. A major firefighting vehicle and equipment five-year replacement programme was implemented, with 70 per cent of assets delivered, inspected and commissioned. Technical expertise for an aggressive fast-track upgrade project initiative for domestic aerodromes was also provided. The Project continued to assist the Government in replacing foreign experts with Government national employees recruited to most civil aviation professional positions within the GACA organization.

**SINGAPORE****Singapore-ICAO Developing Countries Training Programme*****Project goal***

The objective of this project, funded by the Civil Aviation Authority of Singapore (CAAS), was for ICAO to assist with the administration of a programme to train participants from developing countries, as selected by the Singapore Aviation Academy (SAA). The assistance covers the distribution of information to ICAO

Member States and the issuance of letters of fellowship awards and letters of rejection. This project, which began in 2012 for an expected duration of one year, was completed.

#### ***Project achievements***

Fifty-nine participants from 38 developing countries were selected for participation in ten courses which were conducted in the disciplines of civil aviation management; communications, navigation and surveillance/air traffic management; crisis management in aviation security; emergency management; introduction to air law; safety oversight airworthiness inspectors; safety oversight flight operations inspectors; safety oversight managers; and State safety programme.

### **SOMALIA**

#### **Civil Aviation Caretaker Authority for Somalia (CACAS)**

##### ***Project goal***

This project, which is funded from aeronautical charges collected through the International Air Transport Association (IATA), is based on the authorization given to ICAO by the United Nations Secretary-General to act upon civil aviation matters with respect to Somalia. Its objective is to provide assistance, under the supervision of the Director of the Technical Co-operation Bureau of ICAO, in the operation and maintenance of essential facilities, equipment and services for international air transport operations. This includes humanitarian and relief flights and local flight operations within the Mogadishu Flight Information Region (FIR), as far as feasible, in order to meet immediate requirements for safety; to assist in the rehabilitation and development of the aviation infrastructure, where feasible and provided these activities are financed from sources other than air navigation charges; and to plan, programme and develop an essential nucleus for the establishment of a functional civil aviation administration structure for the future Government of Somalia. This project, which began in 1996, was initially extended through 2006 and, due to the continuing political instability of the country, it has now been extended through December 2013.

##### ***Project achievements***

The project continued to provide for the management and administration of the Civil Aviation Caretaker Authority of Somalia (CACAS) in coordination with the ICAO Regional Director, Eastern and Southern Africa Regional Office. CACAS continued to provide flight information service (FIS), including aeronautical information service (AIS), aeronautical communications (AEROCOM) and aeronautical meteorological services (AEROMET) on a 24-hour basis to flights over Somalia airspace from the project office located in Nairobi. It also continued to provide aerodrome flight information services (AFIS), rescue and firefighting



and ground marshalling services at Hargeisa, Berbera and Bosaso airports. The project operates an AEROCOM station at Garowe airport and an AIS briefing office at Hargeisa airport. Fellowships were awarded in aviation security professional management, aeronautical information services, airport firefighting — basic, area airways control, legal and financial issues for air navigation services providers (ANSPs) and aerodrome certification. CACAS assisted UNDP in the assessment and certification of civil works at Hargeisa Airport. Airport assessments were carried out at Baidoa, Berbera, Galkayo and Burao airports. A technical audit/gap analysis study to assess the operations of the project as well as the situation in Somalia for the purposes of transitioning the project to the Somali Authorities was completed. A contract was signed for the implementation of controller-pilot data link communications (CPDLC) and automatic dependent surveillance (ADS-C) systems, which will be installed at the centre in Nairobi. The project is currently working on the specifications for the implementation of an extended range VHF and ADS-B, which together with the CPDLC/ADS-C contract will address the safety concerns captured in the gap analysis report.

## **SOUTH SUDAN**

### **Assistance for the Review of the Civil Aviation Act of South Sudan**

#### ***Project goals***

The objective of this project, funded by the ICAO Aviation Safety Fund (SAFE), was to review the draft Civil Aviation Act of the newly established Republic of South Sudan and provide the Ministry of Transport with a report. This project, which began in 2012 with an estimated duration of five days, was completed.

#### ***Project achievements***

An air law expert performed a desk-review of the draft Civil Aviation Act of South Sudan and produced a report highlighting the positive elements of the Act as well as its shortcomings, including directions for corrections to remedy these shortcomings.

### **Support to UNMISS Programme of Airfields Rehabilitation, Air Navigation Services Improvement and Regulatory Framework Development**

#### ***Project goals***

The objective of this project, which was funded by the United Nations Mission in South Sudan (UNMISS), was the implementation of civil aviation infrastructure and related programmes designed to enhance the safety and efficiency of UNMISS operations in South Sudan. The immediate priority is the establishment of a legal framework for civil aviation in the country. The project, which began in August 2012 for an expected duration of five months, was completed.

***Project achievements***

The air law expert proposed amendments to the Civil Aviation Act for the optimization of the organizational framework of the South Sudan Civil Aviation Authority. A draft Civil Aviation Bill was developed covering safety management systems (SMS), quality control, national safety and security programmes as well as exhaustive provisions to operate a safe and efficient civil aviation. A set of Civil Aviation Regulations was recommended for approval.

**SUDAN****Consultancy Services for the Civil Aviation Authority of Sudan*****Project goal***

The objective of this project, funded by the Government of Sudan, is to ensure compliance of the Sudan Civil Aviation Authority (SCAA) with the international aviation conventions, ICAO Standards and Recommended Practices (SARPs) and related guidance material and to enhance SCAA capability to review, update and apply effectively, safety oversight, air traffic management (ATM) and personnel licensing regulations, procedures, documents and manuals according to national and international requirements and standards. The project, which began in September 2011 with an expected duration of twelve months, was extended through September 2013.

***Project achievements***

Support in the areas of flight operations, personnel licensing, aviation medicine and air traffic management was provided to the SCAA by international experts. The ICAO experts assisted the SCAA to create a personnel licensing procedures manual. A feasibility study and maps were prepared for the proposed aeromedical centre which will be a reference centre for certification and provision of support to Khartoum International Airport Clinic in order to streamline its duties and functions in emergency and environmental medicine. An option for the restructuring of the Sudan airspace based on ICAO GNSS/PBN concepts, an aerodrome safety manual based on ICAO guidance contained in the *Safety Management Manual (SMM)* (Doc 9859), and an aerodrome emergency plan were developed.



**THAILAND****Assistance in Safety Management Systems (SMS) Training*****Project goal***

The objective of this project, funded by the Airports of Thailand Public Company Limited (AOT), was to conduct an ICAO safety management systems (SMS) training course with examples relating to safety management for airports. The project, which began in February 2012 with an expected duration of one week, was completed.

***Project achievements***

The course was delivered to a cross-section of 34 AOT managers with responsibilities critical to the successful implementation of SMS. After the course, a senior management briefing on SMS was delivered to around 30 AOT staff. At this briefing emphasis was placed on the sustainability and management commitment aspects of SMS.

**Assistance in Airport Master Planning Training*****Project goal***

The objective of this project, funded by the Airports of Thailand Public Company Limited (AOT), was to conduct an airport master planning course on all relevant aspects of airport master planning and applicable ICAO Standards and Recommended Practices (SARPs). The project, which began in July 2012 with an expected duration of one week, was completed.

***Project achievements***

Thirty middle and senior level managers of the AOT and invited representatives successfully participated in the course.

**UGANDA****Assistance for the Development of a 20-Year Civil Aviation Master Plan (CAMP) for Uganda*****Project goals***

The objective of this project, funded by the Civil Aviation Authority of Uganda, is to assist Uganda in the development of a Civil Aviation Master Plan (CAMP) for the period 2012-2031 to serve as a guide and road map for the development of the sector. This project began in May 2012 with an expected duration of 11 months.

***Project achievements***

Technical specifications for the development of the CAMP were prepared and a tender issued. An evaluation of bids was conducted by ICAO, the recommendations made were approved by Uganda, and the contract was awarded. Contract implementation has commenced.

**URUGUAY****Strengthening of the Directorate of Civil Aviation and Infrastructure (DINACIA)*****Project goal***

The objectives of this project, funded by the Government of Uruguay, are to ensure the provision of technical, administrative and professional resources enabling the local aviation authority to meet its safety oversight responsibilities in accordance with ICAO Standards and Latin American Aeronautical Regulations (LARs) as well as to modernize air traffic services. The project began in 2009 with an expected duration of four years.

***Project achievements***

Assistance in institutional strengthening was provided through the recruitment of international experts and eight national professionals specialized in those areas where the local authority could not successfully retain staff. Recurrent training in flight simulators was provided to flight operations inspectors. With the assistance of international experts, a total of 14 professionals were trained locally as flight operations (OPS) inspectors. A very high frequency (VHF) communication system was installed and put into service at the Carrasco International Airport.

**Civil Aviation Purchasing Service (CAPS)*****Project goal***

The objective of this project, funded by the Directorate of Civil Aviation and Infrastructure (DINACIA), is to procure equipment to strengthen the aeronautical authorities. This project, which began in 2005, was extended through December 2013.

***Project achievements***

A contract was signed for the procurement of one primary and secondary radar including an area approach centre. A contract was signed for the implementation of a country-wide very high frequency-extended range (VHF-ER) network and was recently commissioned.



**VENEZUELA (BOLIVARIAN REPUBLIC OF)****Modernization of Airports and Air Traffic Control*****Project goal***

The objective of this project, funded by the Government of the Bolivarian Republic of Venezuela, is the modernization of air traffic control and airport services with a view to ensuring the safety and development of civil aviation in Venezuela. This project, which began in 2004, was extended through December 2013.

***Project achievements***

One conventional VHF omnidirectional radio range/distance measuring equipment (CVOR/DME) was procured, installed and commissioned on Gran Roque island. The supply of additional equipment and materials was concluded. Very high frequency/high frequency (VHF-AM/HF) equipment for the aerodrome control towers of the Maiquetía and Santo Domingo Airports were installed. With the installation of the above-mentioned equipment, the contract for the procurement of 21 control tower systems was completed. Very small aperture terminal (VSAT) and very high frequency-extended range (VHF-ER) equipment were installed in Isla de Aves.

**INTER-COUNTRY AND INTER-REGIONAL LISTINGS****AFRICA REGION****Assistance to the Autorités Africaines et Malgache de l'Aviation Civile (AAMAC) for the Establishment of an International Safety Oversight Entity*****Project goal***

The objective of this project, funded by the AAMAC (composed of the ASECNA Member States, i.e. Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea-Bissau, Madagascar, Mali, Mauritania, Niger, Senegal and Togo) is to assist in the migration of AAMAC from its current cooperative framework to an International Organization (Regional Safety Oversight Organization) that will assist its Member States in the performance of their safety oversight functions, as required. The project, which began in September 2010 with an expected duration of twelve months, was extended through December 2013.

***Project achievements***

The project team leader was again recruited for short-term missions. The Treaty establishing the AAMAC was adopted during a Diplomatic Conference held in N'Djamena, Chad, and is now awaiting ratification by the AAMAC Member States. An initial set of draft manuals, including the Board policies and procedures manual, staff rules, financial regulations, organizational chart, and a proposal for the establishment of technical committees, were developed and submitted to the AAMAC Council for review and were approved by the Directors General of Civil Aviation of AAMAC Member States.

**Assistance to the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA)*****Project goals***

The objective of this project, funded by the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA), (which is composed of Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea-Bissau, Madagascar, Mali, Mauritania, Niger, Senegal, Togo) and France, is to assist in the procurement of monopulse secondary surveillance radar systems (MSSR) with Mode S functionality and air traffic management (ATM) systems to support area, approach and aerodrome air traffic control operations and related services, including all necessary civil works to be supplied to ASECNA within the framework of its surveillance extension project. The project began in December 2011 with an expected duration of 18 months.

***Project achievements***

A CNS/ATM expert was recruited to assist in the implementation of this project. Following a fact-finding mission in Dakar, Senegal, technical specifications for the above-mentioned equipment were prepared. The tender was opened on the ICAO website in April 2012 for eight weeks. During this period, a bidders' conference attended by seven suppliers, ASECNA and ICAO was held in Dakar. Upon closure of the tender, the bids received were evaluated by ICAO and ASECNA and the contract awarded.

**Assistance for the Establishment of the Banjul Accord Group Aviation Safety Oversight Organization (BAGASOO)*****Project goal***

The objective of this project, funded by Member States of the Banjul Accord Group (BAG), (which is composed of Cape Verde, Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone) and with in-kind and financial support from the African Development Bank, The Boeing Company, the European Aviation Safety Agency (EASA) and the United States Federal Aviation Administration (FAA), is to assist Banjul Accord Group Member States to establish the BAG Aviation Safety Oversight Organization (BAGASOO) whose mission is to enhance the safety and efficiency of air transport in the subregion. The project, which began in July 2010 with an expected duration of one year, was extended through March 2013.

***Project achievements***

All necessary administrative, institutional and policy frameworks for the efficient and effective implementation of BAGASOO activities were established and are fully functional. A common training policy/programme framework for the training and qualification of BAG national inspectors is currently being operated and supported by the newly created BAGASOO inspector training database software. With the collaboration of the FAA and support from the Safe Skies for Africa programme, a total of 1 892 course days of training was delivered to 170 aviation personnel from civil aviation authorities of BAG Member States and the industry. The training covered various fields, including safety management systems (SMS), inspector training system (ITS) and safety assessment of foreign aircraft (SAFA) and resolution of safety concerns. Technical support was provided to Guinea, Sierra Leone and Liberia in the resolution of deficiencies identified through the ICAO Universal Safety Oversight Audit Programme (USOAP). BAGASOO developed a website for the Sierra Leone Civil Aviation Authority (SLCAA) and trained its information and communication technology (ICT) personnel on its management and operation. BAGASOO expanded the integrated training system (ITS) training curriculum from flight operations and airworthiness disciplines to aerodromes, with a supporting database. Work is being finalized on the development of a regional aviation software comprising a regional aircraft register, a regional register of leased foreign aircraft, a regional register of air

operator certificate holders, a regional register of approved maintenance organizations and a regional register of aviation training organizations.

### **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) — Africa**

#### ***Project goal***

The objective of this project, funded by the United Nations Central Fund for Influenza Action (CFIA), as well as through in-kind contributions from the World Health Organization (WHO), the Singapore Civil Aviation Authority and other States and international organizations, is, through cooperative arrangements among the participating States and their administrations (Angola, Benin, Cape Verde, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Gambia, Kenya, Lesotho, Mali, Mauritania, Mozambique, Niger, Nigeria, Senegal, South Africa, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe), to reduce the risk of air travellers spreading communicable diseases such as influenza of pandemic potential. The CAPSCA project provides assistance to States to enable them to comply with the relevant ICAO Standards and Recommended Practices (SARPs) in Annexes 6, 9, 11, 14 and 18, and the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM (Doc 4444)) and associated guidelines related to contingency planning with regard to public health emergencies. The project, which began in March 2008, was extended through December 2013.

#### ***Project achievements***

Six States, i.e. Benin, Central African Republic, Mauritania, Niger, Senegal and Uganda, joined the project, for a total of 23 members. Assistance visits to five international airports were conducted. Significant conclusions were adopted by the 18th Africa-Indian Ocean Planning and Implementation Regional Group (APIRG) meeting in Kampala, Uganda, regarding the compliance of States' civil aviation regulations with provisions on public health emergency in ICAO Annexes and guidance material and the establishment of Aviation Public Health Emergency Plans integrated within the National Public Health Emergency Plans. A training workshop for technical advisors in Côte d'Ivoire was attended by 72 participants from nine States. A regional meeting was held in Nairobi, Kenya.

### **Cooperative Development of Operational Safety and Continuing Airworthiness Programme — UEMOA (COSCAP-UEMOA)**

#### ***Project goal***

The objectives of this project, funded by Union Economique et Monétaire Ouest Africaine (UEMOA) Member States (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo), Mauritania, and with financial and in-kind contributions from the African Development Bank, The Boeing Company,



the European Aviation Safety Agency (EASA), the European Commission and the French Cooperation, are to enhance the safety of air transport operations; augment technical knowledge and qualifications of national inspectors by providing theoretical and on-the-job training; perform air operator certification and surveillance tasks on behalf of the civil aviation authorities whose oversight capabilities are currently limited; and establish an aerodrome inspection and certification programme which will lead to the creation of an aviation safety organization among the Member States. This project, which began in 2004 with an expected duration of three years, was extended through June 2013.

### ***Project achievements***

Updates to the draft common technical regulations as well as to inspectors' manuals were developed in the fields of personnel licensing, operations, airworthiness and aerodromes. National inspectors received training in these fields. The project participated in delivering the GSI airworthiness course together with the COSCAP-SADC in the South Africa region. Project staff attended seminars and workshops of the European Civil Aviation Conference (ECAC), the European Aviation Safety Agency (EASA) and ICAO in the areas of incident investigation, safety regulations, transport of dangerous goods by air and continuous monitoring approach. Assistance missions were carried out in UEMOA States for the implementation of their corrective action plans following ICAO Universal Safety Oversight Audit Programme (USOAP) audits. An airport certification audit was performed.

### **Cooperative Development of Operational Safety and Continuing Airworthiness Programme in the Member States of the Economic and Monetary Community of Central Africa and Sao Tome and Principe (COSCAP-CEMAC/STP)**

#### ***Project goal***

The objectives of this project, which was funded by CEMAC Member States (Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon) and Sao Tome and Principe, with financial and in-kind input from the African Development Bank, Airbus, The Boeing Company, the French Directorate General of Civil Aviation, the European Aviation Safety Agency (EASA), the United States Federal Aviation Administration (FAA), the French Cooperation, and Transport Canada, were to enhance the safety of air transport operations; facilitate a coordinated approach to shared technical expertise; augment national inspectors' technical knowledge and qualifications by providing classroom and on-the-job training; perform regional air operator certification and surveillance tasks on behalf of the Civil Aviation Authorities (CAAs) whose oversight capability is currently limited; and establish an aerodrome inspection programme which will lead to the creation of an aviation safety organization among Member States. This project, which began in 2008 with an expected duration of 36 months, was completed.

***Project achievements***

A technical assistance mission was conducted in Chad in preparation for the ICAO Universal Safety Oversight Audit Programme (USOAP) audit. On-the-job training was provided to national inspectors in Chad and Central African Republic in the areas of air operator certification, and operations and airworthiness, respectively. Proposals were made for the harmonization of regulations in CEMAC on personnel licensing, operations, aerodromes and airworthiness.

**Cooperative Development of Aeronautical Meteorology Services in WACAF Region — Pilot Project*****Project goal***

The objective of this project, which is funded by Gambia, Cape Verde, Nigeria and Cameroon, is to enhance the capability of the States' regulatory authorities in carrying out safety oversight of AeroMet services through the adoption of a comprehensive systems approach. At the end of this pilot project, the enhanced capability and expertise within the region will be the basis for either a continuation of the programme or the establishment of a successor organization. The project began in October 2012 with an expected duration of eight months.

***Project achievements***

Generic AeroMet rules and regulations, a procedures manual for AeroMet quality management system implementation and surveillance as well as an AeroMet inspector/trainer handbook were developed and initiated. A gap analysis was started between the States' regulations and guidance material and applicable international standards as well as those which are currently in use by States with highly developed regulatory systems and by the World Meteorological Organization (WMO).

**Cooperative Development of Operational Safety and Continuing Airworthiness Programme in the Southern African Development Community States (COSCAP-SADC)*****Project goal***

The objective of this project, funded by Member States of the Southern African Development Community (SADC) (Angola, Botswana, Democratic Republic of the Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe), with financial and in-kind input from the European Aviation Safety Agency (EASA) and the United States Federal Aviation Administration (FAA), is to establish a semi-permanent or permanent regional cooperative organization referred to as the SADC Aviation Safety Organization (SASO) whose mandate is to carry out the full range, or part as required, of certification and surveillance



functions on behalf of SADC Member States and to establish a training resource centre in these areas. This project, which began in April 2008, has been extended through April 2013.

### ***Project achievements***

The legal and institutional framework required for establishing the SASO was developed. Significant progress was made in developing SASO's Policy and Procedures Manual. An agreement was reached by the SADC Civil Aviation Committee on minimum requirements for the SASO as well as on a process for determining the permanent location of the SASO in the region. Technical assistance and training were provided to SADC member and neighbouring States which included the delivery of three government safety inspector (Operations) courses; one government safety inspector (Airworthiness) course; three pre-ICAO coordinated validation mission (ICVM)-focused technical assistance missions; participation in one Regional Office safety team (ROST); coordination of regional training courses delivered by a donor State and one aging aircraft maintenance programme training seminar delivered by an aircraft manufacturer; monitoring one aircraft maintenance organization (AMO) certification project and conducting one approved training organization (ATO) fact-finding mission in support of the ICAO Regional Office in Nairobi.

## **AMERICAS REGION**

### **Air Traffic Management (ATM) Operational Concept and the Corresponding Technological Support for Communications, Navigation and Surveillance (CNS)**

#### ***Project goal***

The objectives of this project, funded by the Governments of Argentina, Bolivia (Plurinational State of), Brazil, Chile, Ecuador, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of), are the development and implementation of global air navigation plan initiatives, which will lead to the transition from an air traffic management system based on ground aids to a system based on aircraft performance; the implementation of aeronautical information services quality assurance and safety management systems in accordance with international Standards; and the development of a strategy for the implementation and integration of automated air traffic management systems in the Caribbean and South American (CAR/SAM) Region to facilitate the exchange of information and collaborative decision-making with respect to all components of the air traffic management (ATM) system. This project, which began in 2007 with an expected duration of five years, was extended to December 2017.

***Project achievements***

Ecuador joined the project, increasing the membership to ten States. Action plans aimed at the development of ATS routes network Version 2 – Phase 3, a guide for flexible use of airspace (FUA), a guide on technical considerations for implementation of automatic dependent surveillance-broadcast (ADS-B) and an implementation plan for improvements in the provision of data for terrain and obstacles were developed. Visits were conducted to Panama and Venezuela to assist in implementing a quality assurance system for meteorological services and aeronautical information services (AIS). Activities aimed at implementing a quality management system for AIS were initiated. The project supported the convening of two meetings of the SAM implementation group and sponsored the delivery of four training programmes related to ADS-B and AIS with the participation of 217 specialists from 12 States of the SAM Region, one State of the CAR Region and 16 international organizations, awarding 55 fellowships.

**Implementation of Performance-Based Air Navigation Systems in the Caribbean Region*****Project goal***

The objective of this project, funded by participating States/Territories and organizations (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, France (French Antilles), Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Netherlands Antilles, Nicaragua, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United Kingdom (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat and Turks and Caicos Islands), United States, the Caribbean Aviation Safety and Security Oversight System (CASSOS), the Central American Corporation for Air Navigation Services (COCESNA) and the Eastern Caribbean Civil Aviation Authority (ECCAA)), is to provide assistance to States/Territories/Organizations of the Caribbean (CAR) Region to foster the implementation of performance-based air navigation systems leading to a seamless global ATM system. The air navigation systems will be operationally suitable, technically feasible and economically viable and will be harmonized with the Global Air Navigation Plan (GANP), CAR/SAM Regional Air Navigation Plan (ANP) and NAM/CAR Regional Performance Based Air Navigation Implementation Plan (NAM/CAR RPBANIP). This project began in 2009 with an expected duration of four years.

***Project achievements***

The first Project Steering Committee meeting was held in Punta Cana, Dominican Republic, with 29 participants from five member States, four observer States and four international organizations. The following workshops were organized with the support of the project: ICAO workshop on PBN airspace redesign and GNSS implementation for the NAM/CAR regions with 55 participants from 14 States and four international organizations, and ICAO regional aerodrome certification and

inspection workshop with 34 participants from nine States and one international organization. The Project Coordinator also attended the ICAO CAR/SAM workshop on the use of aeronautical studies in the aerodrome certification process. The initial search for the procurement of ADS-B equipment was carried out with the development of technical specifications and a budget.

### **Communications, Navigation and Surveillance (CNS) Digital Network — Management of the South American Digital Network (REDDIG) and Administration of the Satellite Segment**

#### ***Project goal***

The objective of this project, funded by the Governments of Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, France, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela (Bolivarian Republic of), is to establish a multinational mechanism to manage the communication, navigation and surveillance (CNS) digital network through the REDDIG and modernize the aeronautical fixed-service communications, so as to make it homogeneous, interconnectable and interoperable with other digital networks within the Caribbean and South American (CAR/SAM) Region. Since the establishment of the multinational mechanism, the project temporarily manages the REDDIG and implements applications in the CNS/ATM sector in accordance with the requirements of the Regional Air Navigation Plan — Facilities and Services Implementation Document for the CAR/SAM Region. This project, which began in 2003 with an expected duration of five years, was extended to December 2018.

#### ***Project achievements***

The project continued to efficiently manage the REDDIG network and administer the satellite segment providing all Member States with a sound and reliable network that supports the aeronautical telecommunications services within the Region with the highest standards of quality and availability, and to assist in the implementation of new services. A total of eight logistics-related operations were completed, including the shipment of spare parts to Member States, and the purchasing of the necessary additional spare parts. A course on ATS message handling systems and interconnection aspects was carried out with the participation of 34 delegates from eleven Member States. Eleven fellowships were awarded. The Fifteenth Meeting of the Project Coordination Committee reviewed the results of the bid evaluation for REDDIG II, conducted by an evaluation group composed of representatives from Argentina, Brazil, France (on behalf of French Guiana), Paraguay and Peru, as well as the REDDIG Administration, and approved and endorsed the result of the evaluation process.

**Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) — Americas*****Project goal***

The objective of this project, which is funded by the United Nations Central Fund for Influenza Action (CFIA) as well as through in-kind contributions from the World Health Organization (WHO), the Singapore Civil Aviation Authority and other States and international organizations, is, through cooperative arrangements between the participating States (Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Curaçao, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, United Kingdom (Turks and Caicos Islands), United States, Uruguay and Venezuela (Bolivarian Republic of)) and their civil aviation administrations and public health authorities, to reduce the risk of air travellers spreading communicable diseases such as influenza of pandemic potential. This project, which began in December 2008, was extended through December 2013.

***Project achievements***

Curaçao, Grenada, Paraguay, and Turks and Caicos Islands joined the project, increasing the membership to 32 States, thereby representing 90 per cent of States in the region. Ten assistance visits to international airports were completed. More than half of the assistance visits included a technical advisor from the World Health Organization (WHO). The CAPSCA — Americas project was presented at a number of regional meetings, including the ICAO/LACAC Regional Facilitation Seminar, Santiago, Chile; ICAO/LACAC Regional AVSEC Seminar, Antigua and Barbuda; Central America DGCA Meeting, Mexico City, Mexico; and the Central Caribbean Directors of Civil Aviation Meeting, Punta Cana, Dominican Republic. The third CAPSCA Global Coordination meeting was held in Santiago, Chile, with 110 participants from 32 States/Territories, seven international organizations and two members of industry.

**Global Navigation Satellite System (GNSS) Transition in the Caribbean and South American (CAR/SAM) Region — Augmentation Solution for the Caribbean, Central America and South America (SACCSA)*****Project goal***

The objective of this project, funded by the Governments of Argentina, Bolivia (Plurinational State of), Colombia, Costa Rica, Guatemala, Panama, Spain, Trinidad and Tobago, Venezuela (Bolivarian Republic of) and the Central American Corporation for Air Navigation Services (COCESNA), is to plan the development of the technical, financial and operational aspects of a pre-operational satellite-based augmentation system (SBAS) for the Caribbean and

South American CAR/SAM Region, taking into account the evolutionary development of the GNSS, recommendations of the Eleventh Air Navigation Conference and the conclusions of the CAR/SAM Regional Planning and Implementation Group (GREPECAS). This project, which began in 2003, was extended through June 2013.

#### ***Project achievements***

Trinidad and Tobago joined the project. A web page was developed to present the result of the activities implemented under ICAO contracts with regard to the implementation and monitoring of the communications network, ionosphere analysis and the operation of the processing centre, and to display, in real time, the SACCSA performance through dynamic maps.

#### **Technical Cooperation to the Latin American Civil Aviation Commission (LACAC)**

##### ***Project goal***

The objective of this project, funded by 22 participating States of the Latin American Civil Aviation Commission (LACAC), is to provide administrative assistance in the management of the LACAC secretariat. This project originated from the new working arrangements signed between the President of the ICAO Council and the President of LACAC on 21 December 2005, taking into consideration the managerial and financial autonomy of the regional organization. These working arrangements became effective on 1 January 2007. The project, which began in January 2007, was extended through December 2014.

##### ***Project achievements***

Continuous support was provided through numerous activities such as administrative management training, meetings, seminars, processing of fellowships and travel arrangements.

#### **Regional Safety Oversight System**

##### ***Project goal***

The objective of this project, funded by the Governments of Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Panama, Paraguay, Peru, Uruguay, and Venezuela (Bolivarian Republic of), with the participation of Airbus with observer status, is to establish and operate a regional safety oversight system with the required technical, logistical and administrative support. This project, which began in 2001 with an expected duration of five years, was extended through December 2016.

***Project achievements***

This project continued to manage the harmonization of the Latin American Aviation Regulations (LARs) and associated procedures, as well as meetings of experts, multinational certification and surveillance activities, training programmes and technical support to Member States. Training provided included workshops and courses for aerodrome inspectors, courses on personnel licensing, operations and airworthiness for governmental inspectors, approval of aircraft and operators for area navigation and required navigation performance (RNAV/RNP) operations, and courses on the ramp safety inspection data exchange (IDISR) programme attended by 185 participants. In connection with the IDISR programme, information on 1 309 ramp inspections was uploaded into the database. In addition, support was provided to four States for the training of safety and aerodrome inspectors in different areas. LARs on personnel licensing, airworthiness, operations and aerodromes, as well as the airworthiness and operations inspector manuals, were further updated. Translation of LARs into English and Portuguese continued. The process of adoption or adaptation/harmonization of LARs as national regulations by Member States continued with different levels of implementation. Nine States signed a multinational cooperation agreement for the acceptance of aircraft and aircraft components maintenance organizations among civil aviation authorities of Member States on the basis of the audit report by the system's multinational team.

**Training of Aeronautical Personnel in the CAR/SAM Region*****Project goal***

The objective of this project, funded by the Government of Spain, is to improve the operational management of air navigation services providers, airport operators and other services providers, through participation in conferences, seminars and fellowship programmes. The project began in 1997 and was extended through December 2014.

***Project achievements***

One international seminar was delivered on Environmental Aspects of Air Transport, with the participation of 92 officials from civil aviation administrations in the region. In the field of international cooperation, six fellowships, each with a duration of one year, and fifty fellowships, each with a duration of two weeks, were awarded for an airport master's programme, which covered areas such as airport operations, air navigation services and airport management.

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**ASIA AND THE PACIFIC REGION****Asia-Pacific Flight Procedure Programme (FPP)*****Project goal***

The objective of this programme, funded by the active participating States/Administrations of Australia, China (People's Republic of, Hong Kong SAR, and Macao SAR), Democratic People's Republic of Korea, France (French Polynesia), Mongolia, Republic of Korea, Philippines, Singapore and Thailand, is to assist States to develop sustainable capability in the instrument flight procedure domain so as to meet their commitments under Assembly Resolution A36-23 for performance-based navigation (PBN) implementation and their obligations for the quality of their instrument flight procedures (IFPs) which was reinforced in Assembly Resolution A37-11. Afghanistan, Bangladesh, Cambodia, Lao People's Democratic Republic, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Sri Lanka, Timor-Leste and Viet Nam participate in the programme as user participating States, but do not make annual contributions. This project, which began in January 2010, has been extended through December 2017.

***Project achievements***

Assistance in training and procedure design was provided to Member States. In cooperation with partner organizations, such as the ICAO Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAP) and the International Air Transport Association (IATA), twelve training courses and workshops with more than 300 participants from 18 States/Administrations were delivered, including a performance-based navigation (PBN) implementation workshop; ICAO *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS) initial course for procedure designer; PBN procedure design course; procedure design on-the-job training; flight validation for pilots course; and PBN airspace design workshop. Consultations, quality assurance assistance and procedure design support were also provided to various Member States.

**Assistance for South-West Pacific Small Island States, regarding Aerodrome Certification and SMS Implementation*****Project goal***

The objectives of this project, funded by a grant from the International Financial Facility for Aviation Safety (IFFAS) for the participating States of Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Papua New Guinea, Samoa, Solomon Islands and Tonga, are to improve the regulatory oversight capability of States and establish the legal basis for aerodrome certification and State safety programmes (SSP), so as to ensure that all aerodrome certification activities and safety management system (SMS) implementation are conducted in compliance

with ICAO Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations*, and other relevant guidance material, to reinforce the notion of safety management to participating States, and enhance States' capability under the SSP for the acceptance and oversight of aerodrome service providers' SMS plans. This project, which began September 2011, has been extended through December 2013.

#### ***Project achievements***

With the support of the Civil Aviation Authority of New Zealand, an ICAO SMS course was conducted at the Aviation Security Training Centre (ASTC) in Auckland, New Zealand, for which two fellowships were awarded to each South Pacific State participating in the project. The course was attended by 14 participants from seven States.

#### **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) — Asia and the Pacific**

#### ***Project goal***

The objective of this project, which is funded by the Civil Aviation Administration and Airport Authorities in participating States (Afghanistan, China (People's Republic of, Hong Kong SAR, and Macao SAR), India, Indonesia, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Papua New Guinea, Philippines, Singapore, Solomon Islands, Thailand, Tonga and Viet Nam), a grant from the United Nations Central Fund for Influenza Action and in-kind contributions from the World Health Organization (WHO), the Singapore Civil Aviation Authority and other international organizations, is, through cooperative arrangements between the participating States, administrations and airports, to reduce the risk of air travellers spreading communicable diseases, such as influenza of pandemic potential. This project, which began in September 2006, was extended through December 2013.

#### ***Project achievements***

New Zealand joined the project, increasing the membership to 18 States. The 23rd Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) held in Bangkok provided recommendations regarding the need for development, update and testing by States of their aviation public health emergency (PHE) preparedness plans in compliance with ICAO and WHO requirements. The 49th Conference of Asia/Pacific Directors General of Civil Aviation held in New Delhi adopted conclusions regarding the future of the project, including potential funding mechanisms. The fifth CAPSCA-Asia Pacific project meeting was held in Ulaanbaatar, Mongolia. An assistance visit to Nepal was undertaken, followed by a training seminar for technical advisors at the ICAO Regional Office in Bangkok.



**Cooperative Aviation Security Programme — Asia and Pacific Region (CASP-AP)*****Project goal***

The objectives of this programme, funded by participating States (Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China (Hong Kong SAR and Macao SAR), Fiji, India, Indonesia, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Philippines, Republic of Korea, Singapore, Sri Lanka, Timor-Leste and Viet Nam), as well as by a grant from the European Commission and the Government of Canada, are to ensure compliance with international conventions, ICAO Standards and Recommended Practices (SARPs), in particular Annex 17 — *Security*, and the security-related provisions of Annex 9 — *Facilitation*, and guidance material contained in ICAO's *Aviation Security Manual (Restricted)*. The programme is aimed at enhancing the aviation security capabilities of participating States and administrations, creating a regional structure for cooperation and coordination in aviation security matters and training of aviation security personnel. This project, which began in 2004, was extended through August 2014.

***Project achievements***

The national legislation and regulations of one Member State were evaluated and a legal evaluation report completed. AVSEC Convention ratification guidance packages were distributed, as required. The development of the instructor certification content of a training programme progressed with the assistance of a CASP-AP working group, while work on a risk assessment workshop was initiated. One national inspector course, one quality control workshop and one AVSEC legal aspects seminar were provided. One Member received assistance in drafting an audit-related corrective action plan (CAP), and one Member received advice on updating its CAP. As CASP-AP cannot satisfy the needs of all Members through its own resources, the programme has embarked on series of self-funded assistance projects using outside AVSEC experts. Proposals for two assistance projects were prepared and submitted to States for approval. The Programme assisted the Regional Office in conducting the Regional AVSEC Conference in Kuala Lumpur. It also assisted the Regular Programme in conducting two regional crisis management planning workshops and in completing a quality control workshop in a non-CASP-AP Member State.

**Cooperative Development of Operational Safety and Continuing Airworthiness Programme — North Asia (COSCAP-NA)*****Project goal***

The objectives of this project, funded by the People's Republic of China, Democratic People's Republic of Korea, Mongolia and the Republic of Korea, and supported by financial contributions from Airbus, The Boeing Company and

Transport Canada and in-kind contributions from the Civil Aviation Administration of China (CAAC), the United States Federal Aviation Administration (FAA) and Member States, are to: enhance the safety and efficiency of air transport operations in the region and the training and professional development of national airworthiness and flight operations inspectors; harmonize policies and regulations; provide certification and inspection assistance to States currently unable to meet regulatory obligations; coordinate technical assistance programmes; and establish a regional aviation safety team to implement globally developed solutions for safety concerns. This project, which began in February 2003, was extended through January 2018.

### ***Project achievements***

The COSCAP-NA Steering Committee met in Chengdu, China. The North Asia Regional Aviation Safety Team (NARAST) participated in the ICAO Asia-Pacific Regional Aviation Safety Team (APRAST) to identify safety issues and propose actions for the consideration of the COSCAP-NA Steering Committee. Guidance material continued to be developed and workshops and training provided in support of the implementation of NARAST recommendations. Eight training programmes were provided to 336 participants covering foreign air operator surveillance, designated medical examiner, threat and error management, performance-based navigation (PBN) operational approval, continuous monitoring approach, extended diversion time operations (EDTO), fatigue risk management systems (FRMS), aerodrome inspection, safety management systems/State safety programmes (SMS/SSP), as well as recurrent training in reduced vertical separation minimum (RVSM), minimum equipment list (MEL), constant descent to final approach (CDFA) and manual review. Twelve missions were conducted to China, the Democratic People's Republic of Korea, Mongolia and Republic of Korea which included support for the continued development and implementation of SSPs.

## **Cooperative Development of Operational Safety and Continuing Airworthiness Programme — South Asia (COSCAP-SA)**

### ***Project goal***

The objective of this project, funded by the Governments of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, and supported by financial contributions from Airbus and The Boeing Company and in-kind contributions from the Department of Civil Aviation (DGAC) France and Member States, is to enhance the safety and efficiency of air transport in the subregion. The main objectives of Phase III include strengthening the regional institutional framework for aviation; assisting in the development of a harmonized regulatory framework; promoting a comprehensive system approach to conduct safety oversight activities based on effective implementation of ICAO Standards and Recommended Practices (SARPs) and efficient oversight capabilities; developing a regional information sharing system to improve access to safety-

related information; assisting civil aviation authorities of Member States in their efforts to comply with international and national civil aviation standards; and supporting human resources development in the field of civil aviation. This project, which began in 1997, was extended through December 2017.

### ***Project achievements***

The COSCAP-SA Steering Committee met in Dhaka, Bangladesh. The South-Asia Regional Aviation Safety Team (SARAST) participated in the ICAO Asia-Pacific Regional Aviation Safety Team (APRAST) to identify safety issues and propose actions for the consideration of the COSCAP-SA Steering Committee. Twenty-three training programmes were provided to 834 personnel of seven States in the areas of performance-based navigation (PBN) operational approval and implementation, dangerous goods handling, aerodrome certification, runway friction testing, PBN oversight and safety assessment of foreign aircraft (SAFA) programme. Model regulations, standards and guidance material were created and used in related training programmes. With the assistance of the ICAO Flight Procedure Programme (FPP), two implementation workshops and operational approval courses were conducted in Maldives and Pakistan with the support of Airbus. Twenty-nine technical assistance missions were undertaken.

## **Cooperative Development of Operational Safety and Continuing Airworthiness Programme — South East Asia (COSCAP-SEA)**

### ***Project goal***

The objectives of this project, funded by the Governments of Brunei Darussalam, Cambodia, China (Hong Kong SAR and Macao SAR), Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Viet Nam, and supported by financial contributions from Airbus and The Boeing Company and in-kind contributions from Airbus, the Department of Civil Aviation (DGAC) France, the United States Federal Aviation Administration (FAA) and Member States, are to: enhance the safety and efficiency of air transport operations in the region and the training and professional development of national airworthiness and flight operations inspectors; harmonize policies and regulations; provide certification and inspection assistance to States currently unable to meet regulatory obligations; coordinate technical assistance programmes; and establish a regional aviation safety team to implement globally developed solutions for safety concerns. This project, which began in 2001, was extended through June 2016.

### ***Project achievements***

The COSCAP-SEA Steering Committee met in Singapore. The South-East Asia Regional Aviation Safety Team (SEARAST) participated in the ICAO Asia-Pacific Regional Aviation Safety Team (APRAST) to identify safety issues and propose actions for the consideration of the COSCAP-SEA Steering Committee. Fifteen courses, seminars and workshops, covering topics such as aviation medicine,

dangerous goods, foreign air operator surveillance database (FAOSD), performance-based navigation, and safety management systems (SMS) were provided to 527 participants. Thirty-seven missions and events/meetings were conducted in support of Member States. Twenty-seven technical assistance missions, of which 14 were in support of USOAP follow-up and implementation of corrective actions, as well as the transition to the continuous monitoring approach (CMA), were undertaken to support all Member Administrations.

## EUROPE AND THE MIDDLE EAST REGION

### **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) — Middle East**

#### ***Project goal***

The objective of this project, funded by the United Nations Central Fund for Influenza Action (CFIA) as well as through in-kind contributions from the World Health Organization (WHO), the Singapore Civil Aviation Authority and other States and international organizations, was, through cooperative arrangements among the participating States and their administrations (Bahrain, Egypt, Iran (Islamic Republic of), Jordan, Lebanon, Oman, Qatar, Saudi Arabia and Sudan), to reduce the risk of air travellers spreading communicable diseases, such as influenza of pandemic potential. The CAPSCA project provides assistance to States to enable them to comply with the relevant ICAO Standards and Recommended Practices (SARPs) in Annexes 6, 9, 11, 14 and 18 and the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM (Doc 4444)) and associated guidelines related to contingency planning with regard to public health emergencies. This project, which began in May 2010 with an expected duration of two years, was completed.

#### ***Project achievements***

Nine States joined the CAPSCA project in 2012. Assistance visits to three international airports were conducted. Two regional meetings were held at the ICAO Regional Office in Cairo. During the 13th meeting of the MID Air Navigation Planning and Implementation Regional Group (MIDANPIRG) held in Abu Dhabi, support to CAPSCA from States in the region was obtained.

### **Cooperative Development of Operational Safety and Continuing Airworthiness Programme — Gulf States (COSCAP-GS)**

#### ***Project goal***

The objective of this project, funded by the Governments of Bahrain, Kuwait and the United Arab Emirates with the support of Airbus, The Boeing Company, the

European Aviation Safety Agency (EASA), the United States Federal Aviation Administration (FAA) and Etihad Airways of the United Arab Emirates, is to enhance the safety and efficiency of air transport in the Gulf States subregion through the harmonization and effective application of international Standards and national safety oversight provisions, regulations and procedures, thus contributing to the social and economic development of the subregion and promoting greater cooperation among the participating States. It is also aimed at creating a regional structure for cooperation and coordination in aviation security matters, as well as training aviation security personnel. This project, which began in 2005 with an expected duration of five years, was extended to December 2015.

### ***Project achievements***

The project continued to assist in the development and implementation of harmonized air navigation regulations and associated guidance material. Training of technical personnel and inspectors was achieved through the delivery of courses by project experts, provision of support in the organization of training conducted by safety partners, i.e. EASA, the International Air Transport Association (IATA) and the FAA, as well as provision of on-the-job training, awareness raising events, workshops and seminars. Generic air navigation regulations and associated procedures were developed in compliance with ICAO Standards and Recommended Practices (SARPs) and adapting some of the requirements of the European Commission (EC) EASA regulations. A performance-based navigation (PBN)-required navigation performance (RNP) guidance handbook, foreign air operator validation and surveillance regulations as well as procedures manuals were developed and disseminated to the three Member States for their review and approval before final publication.

### **Development of Operational Safety and Continuing Airworthiness in the Commonwealth of Independent States (COSCAP-CIS)**

#### ***Project goal***

This project is a cooperative agreement between the States of the Commonwealth of Independent States (CIS), (i.e. Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan), implemented with in-kind contributions from the Ilyushin Aviation Complex, the Interstate Aviation Committee (IAC) and the United States Federal Aviation Administration (FAA) and with financial contributions from Airbus. The objectives are to enhance the safety oversight capabilities of participating States by establishing a regional flight safety training/advisory centre at the IAC; providing assistance in overcoming deficiencies; providing training to national inspectors; and harmonizing national aeronautical legislation as may be required. This project, which began in 2001 with an expected duration of six years, has been extended through December 2013.

***Project achievements***

The project coordinator participated in various meetings and seminars including: the Heli-Expo in Dallas, where he delivered a presentation about the project and met with helicopter manufacturers with the aim to create an international helicopter safety team (IHST-CIS) in the region; Airbus workshop on flight performance in the Sochi airport terminal area during the 2014 Olympics; Airbus liaison meeting on aircraft operations; Boeing seminar on risk assessment and mitigation for loss of control in flight (LOC-I), controlled flight into terrain (CFIT) and runway excursion (RE); Airbus de-icing seminar; European Commission (EC) safety assessment of foreign aircraft (SAFA) programme seminar; and Airbus high-level seminar on maintenance management awareness. A regional experts group was established as a nucleus for new initiatives in the region. The Civil Aviation Safety Team (CAST-CIS) developed an information paper with practical recommendations on the prevention of accidents and incidents in line with the decision of the European Regional Aviation Safety Group Coordination Group (RASG-EUR(COG-1)), which was submitted at RASG-EUR(COG-2). A flight safety programme in the region for 2013 was developed and submitted for approval by the Council on Civil Aviation and Use of Airspace.

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