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of the Assembly in 2013

Annual Report of the Council

2011

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

TO THE ASSEMBLY OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION

I have the honour to transmit, at the direction of the Council, its Report for the year 2011 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.

Implementing the Resolutions of the 37th Assembly

In 2011, ICAO began to systematically implement the Resolutions of the 37th Session of the Assembly and to set in motion an innovative and risk-based management process that would allow the Organization to deal effectively with the powerful forces that are transforming the air transport industry, as well as the political, economic and social contexts that affect us all.

The foundation is solid. Global air transport is arguably as safe and secure as it has ever been, and we have considerably reduced the impact of aviation on the environment. The greatest challenge we face is the sustained and unprecedented rate of growth of air traffic anticipated over the coming decades. Equally challenging is trying to predict what air transport will look like in 30, 20 or even 10 years, and what this will mean for regulatory authorities.

ICAO remains vigilant and attuned to evolving issues and trends. We are increasingly proactive, while demonstrating the required flexibility to react quickly and assuredly when necessary.

Overall, our programmes and activities remain aligned with our three Strategic Objectives: safety, security, and environmental protection and the sustainable development of air transport. Without these Strategic Objectives we cannot realistically expect to continue enjoying the enormous benefits that air transport consistently delivers.

Continuous safety enhancements have a direct and positive impact on the overall efficiency and environmental performance of the air transport system. They also promote the viability and profitability of operations, and increase public confidence in air travel.

Ongoing improvements in aviation security likewise contribute to more efficient and cost-effective operations, improving the travel experience for passengers and ensuring the efficient delivery of time-sensitive goods worldwide.

Protecting the environment responds to social imperatives and operational demands. Reduced fuel burn improves the carbon footprint of airlines as well as their bottom line. Our successes with quieter aircraft make for a better quality of life in and around airports.

This Annual Report outlines ICAO's achievements and challenges in all of these areas. It highlights our determination to improve still further aviation safety worldwide, our renewed emphasis on reinforcing the global security framework, our relentless pursuit of a collaborative solution for greener skies, and our active involvement in the creation of a favourable regulatory environment for the sustainable development of international air transport.

At the same time, the Report offers a glimpse into the new Rolling Business Plan adopted by the Council to provide the Organization with the ability to mitigate risks and adapt to changes in the world of civil aviation. The Plan identifies a number of key emerging issues and trends in each of the Strategic Objectives for the beginning of the new triennium in 2014, providing both the Organization and other parties with a thematic horizon on which to base their plans.

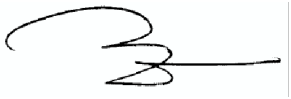
In safety, these include: the growing demand for ICAO's assistance in transition and reconstruction after conflict or crisis; the growing awareness of the human factors aspects of increased automation on the flight deck; the entry of remotely piloted aircraft into non-segregated airspace; harmonization of ICAO's safety monitoring framework with those of States and international organizations; and the expansion of the transport of dangerous goods by air.

As for security, the focus will be on: priority security risk management and facilitation issues; the recognition of equivalent approaches to the achievement of security objectives; a new strategy on travel document security; increased transparency of audit/assessment results; training materials that address priority areas of security threat and risk; and short- and long-term assistance to Member States in complying with ICAO security provisions.

For the environment, there is a need to: develop increasingly complex standards to support the Future Aviation System; facilitate information on the availability and access to green funding; develop the operational features and implementation modalities for the global scheme for market-based measures to reduce aviation emissions; formulate policies and standards to help harmonize and support the development of sustainable alternative fuels; and adopt more stringent standards for aircraft noise.

In terms of the sustainable development of air transport, it means: implementing recommendations of the Sixth Worldwide Air Transport Conference for a better global regulatory environment to achieve sustainable air transport; strengthening the new ICAO statistics programme; and developing innovative strategies to recruit and retain the next generation of aviation professionals.

The groundbreaking Resolutions of the 37th Session of the Assembly were the result of compromise and consensus. Cooperation among Member States, and with industry partners, will ensure that these Resolutions, along with other initiatives contained in this Report, are successfully implemented.



Roberto Kobeh González
President of the Council

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NOTES

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www.icao.int/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.

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 2011

THE WORLD OF AIR TRANSPORT IN 2011

According to preliminary traffic statistics compiled by ICAO, world passenger-kilometres performed on total scheduled services (i.e. international and domestic services combined) increased by about 6.5 per cent (7.1 per cent international and 5.4 per cent domestic) over 2010. The airlines of ICAO's 191 Member States carried approximately 2.7 billion passengers in 2011, showing an increase of about 5.6 per cent over 2010. The number of departures on scheduled services reached 30.1 million globally in 2011 compared to 29 million in 2010. Detailed air transport statistics are available online at: www.icao.int/Pages/annual-reports.aspx

The growth in passenger traffic was a reflection of positive economic growth worldwide and in all regions. The world's real gross domestic product (GDP) is estimated by IHS Global Insight, a major global economic forecasting organization, to have increased by 3.7 per cent in 2011.

In terms of passenger-kilometres performed, international traffic grew by 7.1 per cent in 2011. The largest percentage increase was registered by the airlines of the European Region, with 9.6 per cent growth, followed by those of the Middle East (8.8 per cent), the Latin America/Caribbean Region (6.4 per cent) and Asia/Pacific (6.0 per cent). Europe, moreover, benefited from the continuing ability of low-cost carriers to expand their point-to-point markets. International traffic in the markets of Africa and North America grew by 1.1 and 3.4 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 5.4 per cent over 2010. Growth rates of 1.9, 2.0 and 3.9 per cent in Africa, North America, and the Middle East, respectively, were offset by rates of 7.0 per cent in Europe, 9.1 per cent in the Asia/Pacific Region, and 13.5 per cent in Latin America.

Asia/Pacific volumes benefited from an increase of around 11.7 per cent in the domestic Chinese market. In North America, still the world's largest domestic market, deceleration of traffic growth is confirming the maturity of this market.

Overall, the international traffic growth along with the growth in domestic markets in developing countries, coupled with positive economic growth in the advanced economies, created different patterns of growth and the regional disparities were noted.

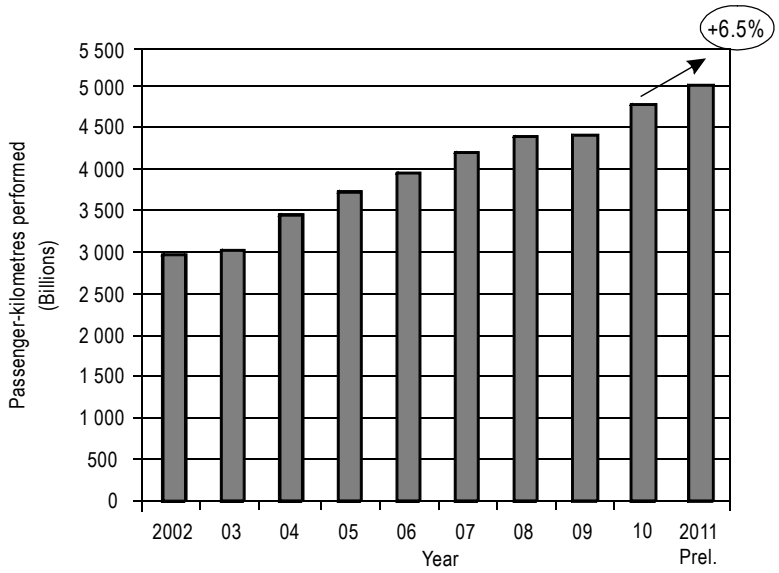


Figure 1. Total scheduled traffic passenger-kilometres performed, 2002-2011

Capacity offered by the world's airlines, expressed as available seat-kilometres, increased globally by 6.7 per cent. While capacity growth ranged from 2.5 per cent in North America to 9.7 per cent in Europe, the global load factor did not change compared to 2010.

Air cargo, in terms of freight tonne-kilometres performed, posted a marginal decrease of -0.1 per cent with approximately 51.4 million tonnes of freight carried. The carriers of the Middle East, Latin America and Europe showed the highest growth rates. The other Regions showed either negative or marginal growths due mainly to a slower than expected economic recovery in the advanced economies.

The heavier economic climate in Europe, coupled with a slowdown in Chinese exports, and strong competition in maritime transport, adversely affected cargo traffic.

Based on available figures, ICAO is estimating an operating profit at the level of about 2.2 per cent of operating revenues.

The world economy is expected to grow by more than 3.5 per cent per year over the next two years; on that basis, ICAO forecasts that passenger-kilometres performed worldwide will rise by over 6 per cent during the next two years. Oil prices, above USD 100 at year's end and higher by some 35 per cent than the average level the year before, remain a potential impediment to growth, although this could be mitigated to a certain extent by the delivery of new and more fuel-efficient aircraft.

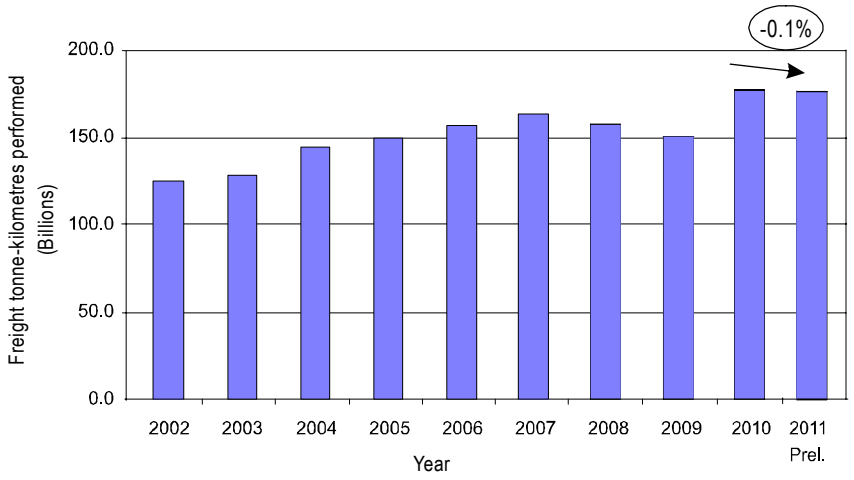


Figure 2. Total scheduled freight traffic

With regard to new aircraft, the world's two major aircraft manufacturers made slightly over 1 000 aircraft deliveries, with approximately 35 per cent of these expected to replace aircraft operating in mature markets. The new fuel-efficient aircraft will contribute to a reduction in the carbon footprint of the aviation sector and support efforts to address climate change.

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, there were 126 aircraft accidents (16 fatal) on scheduled air services in 2011, an increase of 4 per cent over 2010, when 121 accidents were reported. The number of fatalities in scheduled air services worldwide declined to 414 fatalities from 707 in 2010, a decrease of over 40 per cent. Although the number of accidents rose in 2011, due to growth in global traffic the global accident rate remained essentially unchanged, at 3.9 accidents per million scheduled departures versus 4 accidents per million scheduled departures in 2010.

Non-scheduled commercial passenger operations experienced 36 accidents (9 fatal), compared with 177 accidents in the previous year (based on preliminary data). The number of passenger fatalities associated with non-scheduled commercial operations decreased to 112 from 193 in 2010. 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, six were recorded in 2011. These included two attempted seizures, one act of sabotage and three other acts, including two incidents of attempted sabotage. These acts are included in the annual statistics to assist in the analysis of trends and developments.

For more comprehensive safety data, readers may refer to the online database: (http://www2.icao.int/en/ism/istars).

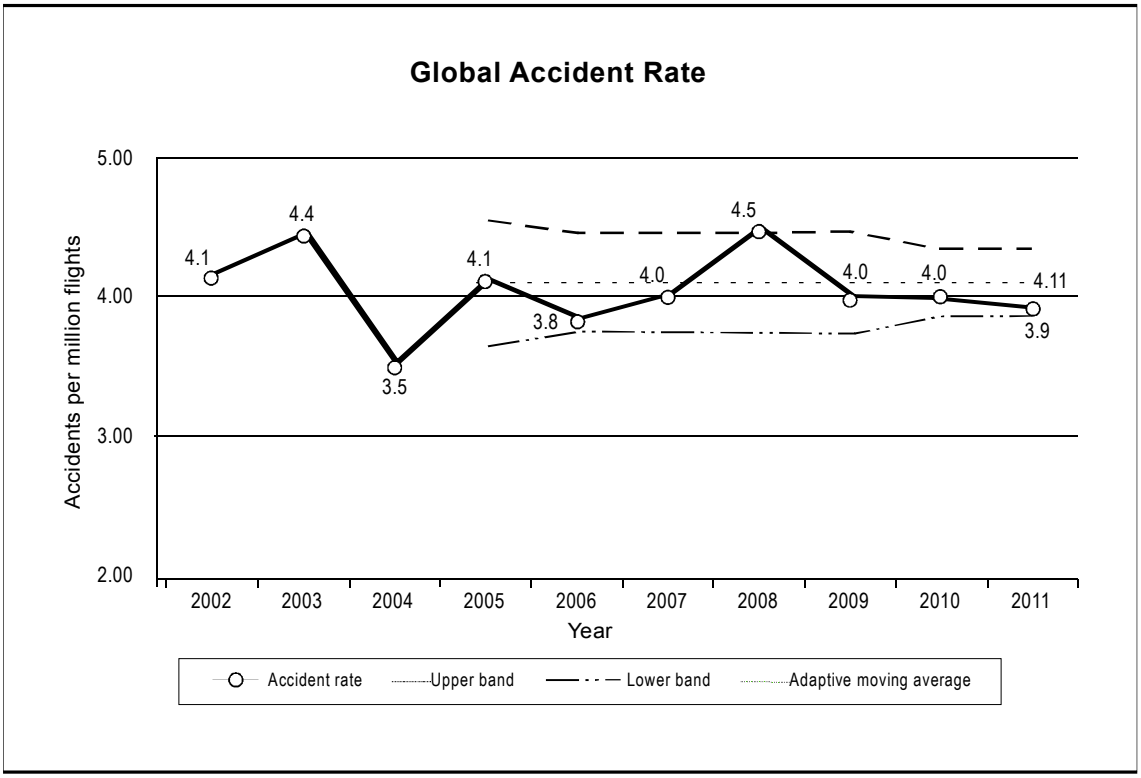


Figure 3. Global accident rate and trend, 2002-2011
(accidents per million scheduled departures)

Strategic Objective A: SAFETY

SAFETY

The safety of the international air transport system is fundamental to the mandate and mission of ICAO, as it is to the world community.

Continuous safety enhancements have a direct and positive impact on the overall efficiency and environmental performance of the system. They also promote the viability and profitability of commercial air transport operations, as well as public confidence in air travel.

ICAO's safety objectives and programmes are highly coordinated and collaborative, reflect the needs of Member States, and benefit from contributions from industry and major aviation organizations around the world.

The Organization's 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.

All of these 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).

Through the activities outlined below, ICAO strove in 2011 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

ICAO Fuel Savings Estimation Tool

To support States in their efforts to quantify the environmental benefits of new operational initiatives, ICAO developed the Fuel Savings Estimation Tool (IFSET). IFSET estimates potential fuel savings and CO_2 emissions reductions, thereby supporting improved air navigation system planning activities and decision making. IFSET is being deployed in all ICAO regions.

iFlex

ICAO was instrumental in supporting the planning and execution of operational trials conducted by the International Air Transport Association (IATA) to develop

more flexible transatlantic tracks connecting Johannesburg (South Africa) with Atlanta (United States). These new "iFlex" routes are now fully operational, delivering shorter flight times, greater fuel efficiency and reduced CO_2 emissions on long-haul operations through multiple flight information regions (FIRs).

Remotely-piloted Aircraft Systems

In March, ICAO published guidance material to assist regulators on issues related to Remotely-piloted Aircraft Systems (RPAS) and unmanned aircraft systems, in the form of a circular, *Unmanned Aircraft Systems (UAS)*, (Cir 328). In April, the Air Navigation Commission approved a draft report to the ICAO Council containing recommendations for new Standards and Recommended Practices (SARPS) to be included in Annex 2 — *Rules of the Air* and Annex 7 — *Aircraft Nationality and Registration Marks.*

New Flight Plan Amendment 1

ICAO continued to support States with the implementation of New Flight Plan Amendment 1 to the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444), approved by the ICAO Council in May 2008, with an applicability date of 15 November 2012. To reduce the risk of major operational disruptions related to the implementation of the New Flight Plan, ICAO conducted a series of workshops in Canada, Egypt, France, Kenya, Mexico, Peru, Philippines, Senegal, Thailand, the United Kingdom and the United States, providing interregional harmonization assistance where required.

Performance-based Navigation

Guidance updates

A new edition of the *Performance-based Navigation (PBN) Manual* (Doc 9613) was prepared. It includes three new navigation specifications (Advanced RNP, RNP-2 and RNP-0.3) as well as requirements for predictable turn performance.

Two new volumes of the *Quality Assurance Manual* (Doc 9906) concerning flight validation and competency requirements of pilots were completed. The manuals will support the approval process for PBN approaches. Drafting of a new ICAO Continuous Climb Operations (CCO) manual was undertaken.

PBN capacity-building

Regional ICAO PBN Go-Team visits were conducted in the United Arab Emirates, Germany, Kenya and Mexico. Go-Team visits assess the areas identified by States in their PBN gap analyses and provide recommendations to further PBN implementation. Go-Team visits are expected to continue until at least 2013 and will be continuously updated to meet emerging issues.

In an effort to provide States with a better understanding of PBN airspace design principles and associated benefits, PBN airspace design concept workshops were held in India, Lithuania, Mexico and Ukraine.

Safety Management

ICAO State of Global Aviation Safety Report

For the first time ever, ICAO published a comprehensive report on the status of safety within the international air transport system. The *State of Global Aviation Safety* summarizes the numerous factors affecting safety performance and highlights the collaborative efforts ICAO is leading and in which it participates with its partners to address safety risks. It is available on the Organization's website.

As the report shows, the global accident rate, while remarkably low at four accidents per million departures, has remained constant over the past several years. The report emphasizes ICAO's strategy to reduce the accident rate through greater coordination and harmonization of multiple safety programmes, in a synchronized and systemic manner.

This proactive approach relies on new analytic capabilities to prioritize existing and emerging safety issues, and to better target mitigation and enhancement resources to areas with the highest risk.

Henceforth, the safety report will be published annually, so as to regularly monitor global safety trends and inform the public of the significant safety-related achievements realized by ICAO, its Member States and its global aviation partners.

State-focused safety activities

ICAO updated and expanded its Global Aviation Safety Plan (GASP), which will undergo a review and acceptance process.

The first meeting of the Safety Management Panel (SMP) held in November advanced the establishment of a 19th Annex to the Chicago Convention. It will be dedicated to State Safety Management responsibilities. SMP recommendations for the new safety Annex are expected to be reviewed by the ANC in the near future.

A revision of the *Safety Management Manual (SMM)* (Doc 9859) was undertaken. It focuses on State Safety Programmes.

Safety cooperation

Highlighting the multidisciplinary nature of safety goals, ICAO worked with its numerous aviation partners to develop and eventually adopt a sector-wide safety

strategy. Initial steps, such as the harmonization of key indicators and the implementation of the Global Safety Information Exchange, will facilitate and encourage increased sharing of safety information and identification of systemic safety issues.

Other safety initiatives

A series of additional initiatives was launched to enhance safety, improve efficiency and support increased capacity.

The establishment of ICAO Regional Aviation Safety Groups (RASGs) was undertaken in all ICAO regions to develop and implement work programmes and reporting procedures that support a regional performance framework for the management of safety, based on the Global Aviation Safety Plan (GASP) and the Global Aviation Safety Roadmap (GASR).

ICAO initiated the Aviation System Block Upgrade (ASBU) methodology, a global framework that addresses flight trajectories as a whole and integrates the air, ground and regulatory components of the global air navigation system. This was in response to a request of the 37th Session of the ICAO Assembly of 2010 that directed the Organization to increase its efforts to meet the global requirements for infrastructure development and airspace interoperability, while maintaining its focus on safety.

The ASBUs, with supporting plans and guidance material, will be part of a revised Global Air Navigation Plan (GANP). Infrastructure development and airspace interoperability, the source of greater air transport efficiencies and safety improvements, are closely linked. The introduction of any efficiency-enhancing capability must be carefully examined and assessed to ensure that the new capability, which will likely be accompanied by increased capacity, will not only maintain the current safety level but even improve safety. The GANP and GASP are therefore closely associated and are being evolved to be mutually supportive.

Continuing airworthiness

Halon

In June, the Council, adopted new amendments to Annex 6 — *Operation of Aircraft* and Annex 8 — *Airworthiness of Aircraft* for the replacement of halon fire extinguishing agents in aircraft, with the objective of further protecting the earth's ozone layer. ICAO received commendations for this environmental measure from the United Nations Environment Programme (UNEP) and from the signatories to the Montréal Protocol.

ATM Global Strategies

New Global Air Navigation Plan

Work continued on amending the Global Air Navigation Plan (GANP) to incorporate the new ASBU requirements and objectives. ASBUs address long-term planning and implementation for air navigation systems, providing a flexible, tailored route for States to achieve compliance with ICAO's strategy for global ATM harmonization and modernization.

Global Air Navigation Industry Symposium

The Global Air Navigation Industry Symposium (GANIS) held in September was the first-ever event to engage and include industry in the development of ICAO's strategic ATM goals. GANIS attendees strongly endorsed the sector-agreed ASBU approach and the strategic direction now being pursued by ICAO. The event also provided useful feedback which is being used to advance an efficient and sustainable future for ATM.

Regional Air Navigation Plans

ICAO continued to develop regional electronic Air Navigation Plans (ANPs) to include the ASBU methodologies, amending the Facilities and Services Implementation Directory (FASID) tables accordingly. The regional e-ANPs will be interactive online tools for States, international organizations and ICAO Regional Offices.

EURASIA RVSM Implementation

With the successful implementation of the ICAO Reduced Vertical Separation Minima (RVSM) project in November, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Uzbekistan not only introduced RVSM between FL290 and FL410, they also moved to the ICAO tables of cruising levels as outlined in ICAO Annex 2 — *Rules of the Air* for the totality of their respective airspace. Mongolia, using the Metric RVSM Flight Level Allocation Scheme as implemented in China and Afghanistan, partially implemented RVSM between FL320 and FL410.

Runway safety

ICAO convened the Global Runway Safety Symposium (GRSS) at its Headquarters in May. The themes of the GRSS, based upon safety management principles, related to the assessment of risks and the consideration of mitigation measures holding the potential of improving safety through increased standardization, collaboration across all relevant operational disciplines, sharing of safety information and implementation of technical solutions to address runway safety issues. From this Symposium, the framework for a series of Regional Runway Safety Seminars (RRSSs) was identified, with a commitment

from partnering organizations for continued support and involvement in the form of multidisciplinary Runway Safety Teams. The first RRSS was held in Miami in October.

A second edition of the IATA Runway Excursion Risk Reduction (RERR) Toolkit was also developed in conjunction with ICAO and other stakeholders. It consists of a comprehensive collection of runway safety reports, workshop materials, presentations and best practices. The toolkit, initially planned as an IATA commercial product, is now freely available on ICAO's Runway Safety website. It highlights our partners' commitment to working collaboratively with ICAO to improve runway safety. A new Runway Safety Toolkit was also placed on ICAO's public website.

Aerodrome safety

A comprehensive amendment to Annex 14 — *Aerodromes* enhancing aerodrome operational safety was reviewed by States and international organizations. Improvements include stronger provisions for runway end safety areas (RESAs) and associated mitigating measures, adoption of the modular concept of aerodrome emergency planning, a new generation of more efficient extinguishing agents for rescue and fire fighting, and new visual aids to help prevent runway excursions.

Runway Surface Condition Assessment, Measurement and Reporting (Cir 329), and the fourth edition of the *Airport Services Manual, Part 3 — Wildlife Control and Reduction* (Doc 9137) were published.

Training materials for comprehensive certification of aerodromes were developed by ICAO for inclusion in the joint Airports Council International (ACI)/ICAO Airport Management Professional Accreditation Programme (AMPAP). This course will help aerodrome operators prepare for initial aerodrome certification and understand their obligations regarding ongoing compliance with certification requirements.

Accident Investigation

Guidance material

The *Manual on Regional Accident and Incident Investigation Organization (RAIO)* (Doc 9946) was published, in response to a recommendation from the last Accident Investigation and Prevention (AIG) Divisional Meeting in 2008. A regional investigation system can provide economies of scale through the sharing of resources and by providing a means for States lacking the required resources to undertake effective accident investigations, thus fulfilling their obligations to the Chicago Convention. Doc 9946 provides guidance on the establishment and management of a RAIO and outlines the relevant duties and responsibilities of ICAO Member States.

Follow-up to recent accidents

Recent accidents involving passenger aircraft, including that of Air France flight 447 in the South Atlantic on 1 June 2009, renewed awareness of the importance of the availability of flight data during accident investigations. The ICAO Flight Recorder Panel discussed proposals that would help to ensure that necessary flight data to support investigations are available to investigators, including provisions for the recovery of flight recorders. Amendments to SARPs being considered include: underwater locator beacons (ULBs) with extended operation time and ULBs with low-frequency signals to increase the probability of finding the wreckage; triggered transmission of flight data to help determine the position of the accident and to have a set of flight data readily available after the accident; and deployable/floatable flight recorders to determine the position of the accident and increase the probability of finding the flight recorders more expeditiously after the accident.

AIG workshops

Two five-day Accident Investigation Workshops were held in Botswana and Senegal for accident/incident investigators and aircraft manufacturers to share their expertise and experience, and to discuss regional cooperation. The workshops were facilitated by ICAO Headquarters and the Regional Offices, with the cooperation of the US Safe Skies for Africa Programme.

Safety audits

Continuous Monitoring Approach

In line with Assembly Resolution A37-5, the evolution of the Universal Safety Oversight Audit Programme (USOAP) to a Continuous Monitoring Approach (CMA) officially began and a two-year transition plan was developed.

ICAO launched new computer-based training (CBT) for State technical experts in the areas covered by the USOAP CMA. The CBT can also be used as a training tool for qualified personnel involved in ICAO Comprehensive Systems Approach (CSA) audits, safety audits and limited or full scope ICAO Coordinated Validation Missions (ICVMs) under CMA.

In addition, ICAO developed seminar/workshop materials to assist States in meeting CMA requirements. Seven regional workshops, one in each ICAO Region, were attended by 138 participants from 52 States and six international organizations, as well as 27 ICAO Regional Officers.

ICVMs took place in 10 Member States: Bahamas, Colombia, Italy, Luxembourg, Mozambique, Mali, the Solomon Islands, Sudan, Ukraine and Viet Nam.

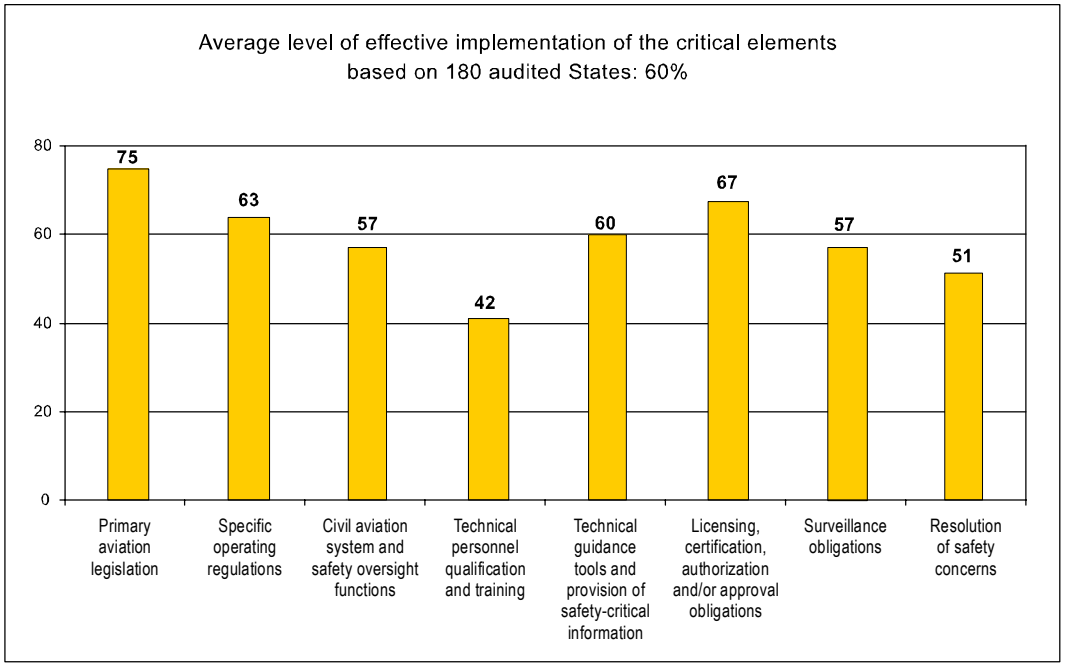


Figure 4. Global audit results — level of implementation of the critical elements of a safety oversight system

In preparation for the increased responsibilities of the ICAO Regional Offices under the USOAP CMA, five Regional Officers participated in a two-month training programme with the Continuous Monitoring and Oversight (CMO) Section at ICAO Headquarters and received ICVM on-the-job training. Three CSA audits were performed in Algeria, Bosnia and Herzegovina, and Pakistan.

Quality Management System

An ISO 9001-compliant USOAP quality management system (QMS), in place in ICAO since 2002, was renewed. It is currently being expanded to include CMA provisions and will be extended to ICAO Regional Offices in support of USOAP CMA activities.

Audit Results Review Board

In November, the Audit Results Review Board (ARRB) was transformed into the Monitoring and Assistance Review Board (MARB), chaired by the Secretary General. The ARRB was established in 2006 to review the safety and security histories of States referred to it and to serve as a coordination forum among the Air Navigation Bureau, the Air Transport Bureau, the Technical Cooperation Bureau and the Regional Offices of ICAO. As of the 193rd Session of the Council in June, a total of 53 States had been referred to the ARRB. The Board monitored progress made by referred States and coordinated the provision of assistance. Over time, the work of the Board has evolved towards the

development and implementation of broad and high-level assistance strategies. The MARB will continue to promote the creation and implementation of these strategies while focusing on the coordination of monitoring and assistance activities in States with significant safety or security concerns, States not participating in ICAO's audit and monitoring processes, or States not fulfilling their commitments regarding the implementation of Corrective Action Plans.

Civil/Military Cooperation

ICAO published a circular entitled *Civil/Military Cooperation in Air Traffic Management* (Cir 330), to offer guidance and provide examples of successful civil/military cooperation practices and procedures. With the support of civil/military partners, a campaign of five regional seminars/workshops addressing civil/military cooperation was undertaken.

Fatigue Risk Management Systems

ICAO hosted a Fatigue Risk Management Systems (FRMS) Symposium which served to launch new FRMS provisions adopted by the Council in March. The Symposium called for expansion of FRMS provisions to incorporate other safety-critical aviation components, such as air traffic control and aircraft maintenance technicians.

Following on another FRMS Symposium suggestion, three regional seminars/workshops were offered in the United States, the United Kingdom and the Russian Federation in July, November and December respectively, to address regional FRMS regulation implementation. Two FRMS manuals, one for regulators and one for operators, were developed to provide comprehensive guidance in this area.

A dedicated Fatigue Risk Management page, focusing on both prescriptive and non-prescriptive approaches to managing fatigue, is accessible through ICAO's public website at:
www2.icao.int/en/FatigueManagement/Pages/Home.aspx

Dangerous Goods Programme

A dangerous goods training course on Volume 1 of the *Dangerous Goods Training Manual — Using the Technical Instructions for the Safe Transport of Dangerous Goods* (Doc 9375) was provided at ICAO Headquarters and in various States. The course is directed towards safety inspectors responsible for dangerous goods, yet benefits anyone with a need for knowledge of the detailed provisions in the Technical Instructions.

An agreement signed with the International Federation of Freight Forwarders Associations (FIATA) established an ICAO/FIATA Dangerous Goods by Air

training programme. The goal is to establish competency-based training for freight forwarders which meets the goals of the ICAO Training Policy. Competency frameworks for shippers and freight forwarders were developed by the Dangerous Goods Panel (DGP) at its 23rd Meeting in October. The panel made recommendations to the ICAO Council to adopt these frameworks in a new document.

ICAO is currently addressing safety risks associated with dangerous goods, including: facilitating the exemption process by addressing difficulties encountered by shippers and operators when attempting to obtain exemptions from States of Overflight; requirements for the carriage of dangerous goods by helicopters; competency frameworks for State employees, shippers and freight forwarders; and the transport of lithium batteries, including the recent change to the Universal Postal Union's (UPU) Convention which would eventually allow lithium batteries contained in equipment to be shipped by mail.

An amendment to Annex 18 — *The Safe Transport of Dangerous Goods by Air* was adopted by the ICAO Council in March. It clarifies the requirements for the issuance of exemptions and approvals. The amendment has an applicability date of 17 November 2011.

Electronic filing of differences

ICAO initiated real-time collection and sharing of compliance data through the launch of its electronic Filing of Differences (e-FOD) system, thereby increasing safety awareness by delivering analytical and data tools. A policy to support e-FOD is being developed.

Language proficiency requirements

In October, ICAO launched the ICAO Aviation English Language Test Endorsement service to confirm how well tests of aviation English meet the criteria for good language tests and how well they reflect ICAO's language proficiency requirements (LPRs). This service was developed with the support of the International Language Testing Association (ILTA), the International Civil Aviation English Association (ICAEA), the International Federation of Air Line Pilot's Associations (IFALPA) and the International Federation of Air Traffic Controller's Associations (IFATCA).

In December, ICAO launched a new Web-based rated speech samples (RSS) tool available free of charge on the ICAO Flight Safety Information Exchange (FSIX) website. It provides an increased number of speech samples of high quality and from a wider range of language performance types, reflecting improved testing practices. The RSS tool will also provide a means for the aviation language training and testing community to standardize and improve related practices.

Training

Helicopter training and simulation

The Secretariat made progress on Volume II of the *Manual of Criteria for the Qualification of Flight Simulation Training Devices* (Doc 9625). The helicopter-focused methods, procedures and testing standards contained in Volume II are the result of the expertise provided by National Aviation Authorities (NAAs), experienced helicopter trainers, flight simulation training devices operators and manufacturers. The purpose of Volume II of Doc 9625 is to provide internationally accepted criteria for the design, qualification and operation of flight simulation devices for rotary wing aircraft. It is currently undergoing its last stages of editorial review.

Training organizations and personnel licensing systems

The second edition of the *Manual on the Approval of Training Organizations* (Doc 9841) was published. The initial 2006 edition focused exclusively on flight training entities. The latest edition is significantly expanded in scope and now addresses the approval of organizations which provide training services for the issue of an aviation personnel licence or rating. This manual is to be used in conjunction with Annex 1 — *Personnel Licensing*.

Competency-based training for maintenance personnel

ICAO issued the first amendment to the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868). This new material provides guidance on how to implement an optional, competency-based approach to the training and assessment of personnel working in aircraft maintenance. Competency-based methods provide several safety and efficiency benefits for licence holders who certify aircraft or parts of the aircraft as airworthy, as well as for those non-licensed personnel undertaking work that will lead to airworthiness certification.

Evidence-based recurrent training for pilots

ICAO developed, in consultation with States, a proposed second amendment to PANS-TRG (Doc 9868). It introduces provisions for the qualifications of instructors and for the development and implementation of evidence-based training (EBT) programmes for flight crew members. Instructor competencies are made explicit under the new amendment, and instructors must demonstrate their instructional skills and the level of their knowledge of the course content. The provisions related to evidenced-based training are intended to provide guidance to Civil Aviation Authorities (CAAs), operators and approved training organizations to develop and evaluate crew performance methodologies applying a competency-based approach.

Next Generation of Aviation Professionals

The ICAO Next Generation of Aviation Professionals (NGAP) Task Force advanced work on flight crew, air traffic controller and air traffic safety electronics personnel (ATSEP) competencies. ICAO conducted four NGAP–TRAINAIR *PLUS* regional conferences hosted by Member States to raise awareness of States, regional organizations, operators, the industry, training providers and organizations, and students, of the challenges that will impact the future workforce of aviation professionals.

TRAINAIR *PLUS*

Under the new TRAINAIR *PLUS* Programme structure, and in line with the new ICAO Training Policy, all applicants must ensure compliance with the criteria set forth in the TRAINAIR *PLUS* Assessment Guidelines (TPAG). Since December 2010, ICAO has conducted 24 assessments. Twenty-one centres have completed the process to become TRAINAIR *PLUS* Associate Members. Two training centres, one from the Republic of Korea and the other located in the United Arab Emirates, successfully completed the process of becoming TRAINAIR PLUS Full Members by implementing their corrective action plans and developing their first Standardized Training Packages (STPs). To support the development of the programme and provide a basis for a new ICAO Training Developers Course, ICAO produced a guide entitled *TRAINAIR* PLUS — *Training Development Guide — Competency-based Training Methodology* (Doc 9941). This manual presents an updated course development methodology which embraces the principles of the competency-based approach and fosters the implementation of quality systems in civil aviation training institutions.

Critical safety risk response support

Natural disasters

ICAO provided technical advice to international responses during several significant world events, including the volcanic eruptions of Grimsvötn in Iceland and Puyehue-Cordón Caulle in Chile, as well as the devastating tsunami and consequential nuclear release at the Fukushima Daiichi nuclear power plant in Japan. These efforts involved coordination and collaboration with States and international organizations within and beyond the United Nations community.

South Sudan

South Sudan celebrated its birth as a nation on 9 July. The heavy air traffic generated by the event at Juba Airport in South Sudan was successfully managed by ICAO through the support of a multinational group of air traffic controllers, engineers and other stakeholders. The Agency for Aerial Navigation Safety in Africa and Madagascar (ASECNA) led the effort and provided significant support with substantial financial assistance provided by the United States. The safe and efficient handling of the event was the culmination of nearly

two months of activity by all partners. ICAO expects to continue supporting South Sudan aviation authorities as they strive to establish a civil aviation infrastructure in ICAO's newest Member State.

Libya

ICAO was the focal point for the increased monitoring, coordination and facilitation of air navigation services in and around the Tripoli FIR as armed conflict unfolded in Libya. Working in close cooperation with the North Atlantic Treaty Organization (NATO), EUROCONTROL, Malta, Egypt, IATA and most recently, the Libyan authorities, ICAO succeeded in ensuring that operations in the affected region were conducted in a safe and organized manner, even while significant military operations were underway. As airspace control is returned to Libyan authorities, ICAO will continue to play a leading role in ensuring an orderly and safe transition to normal operations.

Haiti

ICAO continued its role as the focal point for coordinating assistance for the development of civil aviation in Haiti following the earthquake in 2010. A contract between the Ministry of Transport and ICAO was signed for the World Bank "Haiti Civil Aviation Sector Infrastructure and Institution Emergency Recovery Grant" project.

Crisis coordination

Several initiatives were undertaken to strengthen ICAO's overall internal and external responses to emergencies. Internally, the Organization initiated the drafting of the ICAO Emergency Response Plan, and steps were taken to create a permanent emergency response facility inside the Secretariat building. Externally, ICAO initiated contacts with several UN bodies and agencies actively involved in emergency response, reaching out to the Global Logistics Cluster and the World Food Programme. This process initiated the drafting of a cooperative partnership agreement defining areas of collaboration on the strategic level. ICAO is ironing out the tactical details through its participation in Global and Country Logistics Cluster meetings.

Based on lessons learned during the Japanese crisis, and in light of ICAO's expanded involvement in the Ad-hoc Transport Task Force, the Organization proposed an amendment to the Joint Radiation Emergency Management Plan to allow stronger involvement of the international transport modal authorities. This request was granted and ICAO is currently drafting a proposal, as well as terms of reference for the Standing Working Group on Transport of the Inter-Agency Committee on Radiological and Nuclear Emergencies. The Organization is also revising its existing cooperative agreement with the International Atomic Energy Agency (IAEA).

ICAO also called for the creation of the Inter-Agency Committee on Transport to consider means to increase the crisis management preparedness and response of the entire transport sector.

The establishment of a new Aviation Risk Management Office, run jointly with the UN Department of Safety and Security, was underway.

Volcanic ash

Safety risk-management framework

In response to the significant disruption to air transport following the eruption of the Eyjafjallajökull volcano in April/May 2010, the multidisciplinary International Volcanic Ash Task Force (IVATF) advanced the development of a safety risk-management framework to mitigate the hazards posed by volcanic ash in the atmosphere. This complemented work begun by the International Airways Volcano Watch Operations Group (IAVWOPG). A number of improvements to ICAO's international airways volcano watch system, including supporting provisions, were developed.

Volcanic Ash Challenge Team

In September, ICAO convened a meeting of the Volcanic Ash Challenge Team (VACT) comprised of senior-level officials from a cross section of concerned States and international organizations. The VACT endorsed several principles, including those on circumstances when airspace should be closed, and agreed to increase public relations efforts with concerned stakeholders to improve volcanic ash observation and forecasting on a more comprehensive worldwide basis, in support of ICAO's International Airways Volcano Watch (IAVW).

Regional safety coordination

Regional Aviation Safety Groups

The Regional Aviation Safety Group (RASG) concept, approved by the ICAO Council in 2010, was implemented in three regions by year-end: Asia/Pacific, Pan America and the Middle East.

Cooperative Arrangement for the Prevention of Spread of Communicable Disease through Air Travel (CAPSCA)

The CAPSCA programme, launched in 2010, added 19 States. The CAPSCA network is now 61 States strong and played an important role in the aviation response to the Fukushima Daiichi power plant accident in March. CAPSCA has been funded mainly by the United Nations Central Fund for Influenza Action (CFIA), which is administered by the UN Development Programme. The CFIA winds up in 2012 and an alternative source of funding will be required.

Regional safety organizations

A symposium on Regional Safety Organizations (RSOs) was held at ICAO Headquarters in October, bringing together all stakeholders involved in the establishment and management of Regional Safety Oversight Organizations (RSOOs). A new work plan with respect to RSOs is being developed, a key element of which will be further guidance on sustainable funding for the establishment and maintenance of RSOOs. Funding mechanisms to ensure the long-term sustainability of RSOOs will be accompanied by a system for evaluating the capabilities of RSOs to meet established performance targets and the expectations of their respective Member States.

The second edition of the *Safety Oversight Manual — The Establishment and Management of a Regional Safety Oversight Organization* (Doc 9734, Part B) was developed and published.

Safety Collaborative Assistance Network

During the ICAO High-level Safety Conference in March 2010, a proposal was made to create a group to facilitate transparency and information sharing. On that basis, the Safety Collaborative Assistance Network (SCAN) was formed to serve as a facilitator and coordinator for the exchange of safety-related information regarding financial and technical assistance projects and activities. SCAN provides a new communications channel for discussions amongst donors and assistance providers regarding ongoing projects and planning needs for future assistance endeavours. It assists with matching donors to worthwhile projects and enables potential donors to analyse where assistance is needed. This allows donors and assistance providers to avoid costly and time-consuming duplication of efforts.

SCAN participants include focal points from governmental agencies, regional groups, manufacturers, financial institutions and aviation organizations that provide financial and/or technical assistance pertaining to civil aviation. ICAO is compiling a list of existing assistance programmes and proposed assistance projects in need of funding, based on an analysis of safety-related data from a variety of sources. ICAO is working with States to develop targeted plans of action to address safety oversight deficiencies through risk-based analysis. The results of these analyses and information on assistance opportunities are shared through SCAN. Information on financial and technical assistance projects were provided to States through the SCAN and the launch of a SCAN website.

AFI Regional Comprehensive Implementation Plan

As of January 2011, activities related to the AFI Plan formerly implemented through the AFI Comprehensive Implementation Programme (ACIP) for Aviation Safety in Africa were fully integrated into the work programme of the Regional Offices in Dakar and Nairobi. Good progress was made with regard to direct support to States through the Regional Office Safety Teams (ROSTs) and the

development and implementation of plans of action tailored to the needs of States, in particular those referred to the Audit Results Review Board (ARRB) or with significant safety concerns. The plans developed were submitted to States.

The AFI Cooperative Inspectorate Scheme, spearheaded by the African Civil Aviation Commission (AFCAC) and supported by ICAO, was launched with assistance missions to States with significant safety concerns.

The Third Pan-African Aviation Training Coordination Conference organized by the ICAO AFI Plan was held in South Africa in August. It adopted a framework for harmonizing training in the AFI Region, consisting of: basic guidelines and an implementation plan for the creation of the African Aviation Training Association; designation of centres of excellence; the establishment of an African Aviation Training Accreditation Board; a draft regional training policy; and requirements for a common African aviation training accreditation system.

The AFI Plan Steering Committee's Eighth Meeting took place at ICAO Headquarters in October. High-level participants reviewed progress on reaching the AFI Plan objectives and made recommendations for future adjustments as ICAO, regional organizations and AFI States continue to collaboratively address the continent's safety, inspection and skilled personnel challenges. The AFI Plan Work programme for 2012 was approved by Council in November 2011.

Technical cooperation projects and activities

During 2011 there were 82 national and 29 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

— preparation of technical specifications for the construction of runways for one State;

— continued assistance in the establishment and operations of the Banjul Accord Group Aviation Safety Oversight Organization (BAGASOO) and the Banjul Accord Group Accident Investigation Agency (BAGAIA);

— assistance in the implementation of GNSS in 13 airports;

— establishment of a personnel licensing system for a CAA;

— assistance in the establishment an air bridge operated by the UN Department for Peacekeeping Operations (DPKO) between two cities;

— delivery of training of safety inspectors in the areas of aerodrome certification and safety, and flight safety inspections;

— delivery of in-country training in the areas of transport of dangerous goods by air; and aircraft maintenance; and

— continued assistance for the development of a civil aviation primary legislation for a grouping of States.

Asia and Pacific (APAC) Region

— continued assistance to 24 States and Special Administrative Regions (SARs) in the fields of safety oversight through three regional Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAP) and country projects, including technical assistance to Member States towards resolution of significant safety concerns, USOAP-identified deficiencies and other safety-related findings;

— continued assistance to 16 States and SARs in the field of aviation medicine through CAPSCA which aims to mitigate the risks from public health emergencies that affect the civil aviation sector through seminars and on-the-job training in pandemic preparedness planning and airport evaluations on the subject;

— assistance to 11 States and SARs with improvement of flight procedures (FPP) through preparation of documents and training courses;

— provision of technical and operational advice regarding the upgrade and replacement of CNS systems to one airport administration;

— enhancement of the safety oversight capability in the areas of aerodromes, flight safety and air navigation services for one Civil Aviation Authority;

— revision of DGCA regulations and procedures for the directorates of airports, air navigation, airworthiness and operations in one State;

— delivery of training in safety-related courses (GNSS, radar approach control, SMS, safety oversight inspectors engineering) through the Developing Countries Training Programme;

— conduct of studies on CNS/ATM and aircraft maintenance for one State;

— procurement of fire fighting vehicles for three airports;

— procurement of a primary and secondary radar system, three Doppler VOR/DME and two ILS/DMEs for one State; and

— procurement of various runway and air navigation systems for one airport authority.

Caribbean and South American (CAR/SAM) Region

— continued assistance to seven States in the strengthening and modernization of their civil aviation authorities;

— assessment of the civil aviation administration of one State;

— establishment of an independent accident investigation board within the newly established civil aviation authority of one State;

— assistance to three States through the hiring of international experts and national professionals to maintain the necessary level and capability in safety oversight;

— assistance in the implementation of SMSs and SSPs in two States;

— preparation of a master plan for one airport;

— evaluation of the air navigation services of one State;

— enhancement of air traffic services in order to implement an ATM system in one State;

— assistance in the analysis and identification of existing obstructions and hazards to air navigation at two international airports;

— procurement of airport support systems such as passenger boarding bridges, spare parts for baggage handling systems, and provision of technical support and maintenance;

— procurement of a primary radar system for one State;

— construction of water and fuel tanks to respond to the increase of operations in one international airport;

— continued assistance in the harmonization of the Latin American Aviation Regulations (LARs) and associated procedures for 12 States;

— management of regional meetings of technical experts;

— management of multinational certification and surveillance activities, and training programmes of 12 States, and provision of technical support in safety-related disciplines;

— continued management, on behalf of 14 Member States, of a very small aperture terminal (VSAT) network and administration of the satellite segment in support of aeronautical telecommunications services within the Region;

— development of action plans aimed at implementing the PBN en-route (RNAV 5); terminal areas and approach; air traffic flow management (ATFM); capacity improvements in CNS; interconnection of automated ATM in area control centres; and interconnection of ATS message handling system (AMHS), with the participation of 9 States; and

— assistance to the emergency crash rescue unit of one United Nations Mission.

Europe and Middle East (EUR/MID) Region

— continued development of safety standards, procedures and long-term safety programmes for States management, flight safety oversight, operations and maintenance of airport facilities and services;

— strengthening and modernization of the Civil Aviation Administrations of two States;

— assistance in the implementation of the Middle East Aviation Safety Roadmap;

— review of the report on a fact-finding mission for the restructuring of one State's airspace and upgrading its various telecommunications networks;

— conduct of an aeronautical study on obstacle limitation surfaces for preparation of an airport vicinity protection area; and

— delivery of training courses on a wide variety of safety-related subjects for the Gulf States.

Strategic Objective B: SECURITY

SECURITY

During 2011, ICAO focused on promoting the implementation of the ICAO Assembly Declaration on Aviation Security by advancing policy initiatives for strengthening the global aviation security framework, conducting audits to identify aviation security concerns in Member States, and implementing an enhanced aviation security assistance and capacity-building strategy.

Regional progress in implementing the ICAO Declaration on Aviation Security

To promote closer cooperation among States and assist with implementing the Declaration on Aviation Security adopted by the 37th Session of the Assembly, ICAO planned a series of regional aviation security conferences in all regions of the world. The conferences of 2011 — held successively in New Delhi, Dakar and Moscow — concluded with the adoption of joint statements on enhancing aviation security within the respective regions. Participants reported on various efforts to strengthen aviation security in accordance with the Declaration and contributed to insightful roundtable discussions on related challenges. The meetings highlighted opportunities for future collaboration in addressing security concerns. While the AVSEC conferences took account of regional differences, collectively they helped build consensus on the critical aviation security priorities and issues to be addressed at the global High-Level Conference on Aviation Security in September 2012.

Strengthening and harmonizing security approaches

A wide range of developments in the regulatory field contributed to the strengthening of the security framework and the harmonization of approaches to aviation security by States, ICAO and other stakeholders, as highlighted below.

Amendment 12 to Annex 17 — *Security*, which became applicable in July, included new and strengthened aviation security provisions, including more stringent air cargo security measures and a requirement to apply screening and other security controls to persons other than passengers. The amendment emphasized the need for States to implement security measures in line with a risk-based approach.

During its 22nd meeting in Montréal in March, the Aviation Security Panel considered ways of enhancing the global aviation security policy framework in light of the continuing threat to civil aviation and established new working groups to focus on air cargo security and the issue of mandatory staff screening.

A revamped edition of the *Aviation Security Manual* (Doc 8973, Restricted), formerly titled the *Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference*, was disseminated to better assist States in implementing Annex 17 provisions, including those introduced by Amendment 12. The eighth edition consolidates the five volumes of the previous edition into a single comprehensive document, improving usability and effectiveness. Among other things, it provides aviation security authorities with enhanced guidance on cargo supply chain security, human factors and one-stop security arrangements.

In light of the ever-changing threat and the need for States to implement measures based on risk assessment, ICAO started developing a new risk assessment tool known as the Risk Context Statement. The living document will provide States with a more accurate description of the threat and risk environment as well as a methodology for preparing their own national risk assessments.

As a result of concerns raised by States with regard to the Annex 17 Standard requiring the screening of persons other than passengers, a working group of the Aviation Security Panel agreed in June on alternative amendments to be considered by the Panel in 2012. In a related development, a definition for the sensitive areas of an airport requiring such screening was developed, as well as guidance material for implementing relevant measures.

ICAO and the World Customs Organization (WCO) strengthened cooperation in order to address threats to global air cargo security and improve cargo facilitation. In June, the two organizations signed a Memorandum of Understanding that calls for harmonized development of ICAO and WCO policies, Standards and guidance material for air cargo security, while considering contributions from partners such as the Global Express Association (GEA), Universal Postal Union (UPU), and the International Air Transport Association (IATA).

As part of the effort to enhance guidance to States on strengthening cargo security, ICAO began developing a high-risk cargo concept. States were also urged to develop supply chain security programmes that distinguish between high-risk cargo and conventional shipments, and to implement appropriate methods to screen high-risk cargo.

ICAO adopted a leadership role in the development of a blueprint for a future passenger screening checkpoint and enhanced processes that will achieve security objectives while minimizing the impact on operations. Working with the newly established Technical Advisory Group on Next Generation Screening (TAG/NGen), the Secretariat is coordinating global efforts to define concepts for screening checkpoints of the future in collaboration with State and industry partners. The first meeting of the TAG/NGen convened in Paris in December.

A study group met in December to consider guidance on the harmonized implementation of screening technologies for the detection of explosives in liquids, aerosols and gels (LAGs). It developed general principles for ensuring a harmonized approach to LAGs and recommended that a list of mutually

recognized minimum requirements for the screening of LAGs be developed and maintained by States and industry stakeholders.

Membership of the AVSEC Point of Contact (PoC) Network expanded to 183 States and two Special Administrative Regions (SARs), up from a total of 172 in 2010. A system test of the communications network, used to transmit information on imminent threats as well as guidelines on countermeasures, was conducted in June and confirmed its efficiency and effectiveness.

ICAO launched a Web-based platform known as AVSECPaedia to encourage States to share sensitive information on screening technologies and techniques, and work on an enhanced version of AVSECPaedia featuring an improved search function and user-friendly interface is underway.

Facilitation Programme

The Council adopted Amendment 22 to Annex 9 — *Facilitation*, which contains the Standards and Recommended Practices (SARPs) on customs, immigration, health and quarantine border control regulations. The amendment addresses facilitation-related challenges encountered by States as well as difficulties faced by the air transport industry and air travellers. It also strengthens SARPs on Advance Passenger Information (API) programmes, obliging States to implement international standards that impart global uniformity in passenger data interchange. In April, revised guidelines on API, developed in collaboration with the WCO and IATA, were posted on the ICAO public website http://www.icao.int/Security/FAL/Pages/Publications.aspx.

Amendment 22 also recommends measures States should take to assist air travellers whose flights are disrupted as a result of *force majeure*. The Council also adopted a substantial revision to the health-related provisions of Annex 9 intended to help States prepare for outbreaks of communicable diseases (such as H1N1, SARS and avian flu) posing public health risks or public health emergencies of international concern. Finally, in order to enable customs authorities and the trade industry to adapt to the new post-9/11 security cargo environment, Amendment 22 incorporates new provisions for harmonizing related facilitation and security procedures and practices adopted in States and regulatory bodies such as the WCO.

Machine Readable Travel Document (MRTD) Programme

By year's end, six Member States only had not yet issued machine readable passports (MRPs) in accordance with Annex 9. Some of these States had initiated projects to enable them to issue MRPs in the near future. (The deadline for issuing ICAO-compliant MRPs was 1 April 2010.) In addition, ICAO offered to assist five States that had issued MRPs which did not fully comply with the specifications contained in ICAO's *Machine Readable Travel Documents* (Doc 9303).

Electronic passports were being issued by 93 Member States, and an additional 21 States announced plans to start issuing ePassports within two years. Fifty-six States were using biometrics as part of their border management process.

A three-year assistance project for the Americas, conducted jointly with the Organization of American States' Inter-American Committee Against Terrorism (OAS/CICTE), began in December. It comprises a number of subregional workshops, gap assessments, project development missions and evaluations of project outcomes.

A total of 24 States and international organizations were assisted with implementation of MRTDs. Major capacity-building activities included:

— an assistance project for Mexico (coordinated with ICAO's Technical Co-operation Programme) to analyse the Mexican passport issuance process and ascertain its compliance with Doc 9303;

— assistance for Uzbekistan, in cooperation with the Organization of Security and Cooperation in Europe (OSCE), with regard to implementing an ePassport project; and

— assistance for Nepal with regard to verifying compliance of its MRP with Doc 9303.

In coordination with the Technical Co-operation Programme, the MRTD Programme assisted Ecuador, Lesotho, Mexico and the United Nations Laissez-Passer Office with implementing a number of new capacity-building projects.

The Seventh Symposium and Exhibition on ICAO Machine Readable Travel Documents, Biometrics and Security Standards was held in Montréal in September and focused on the role of MRTDs and border controls in combating and preventing terrorism and transborder crime. Of primary concern to many participants was the lack of resources in a number of States for achieving compliance with ICAO MRTD requirements and building robust identity management systems.

Regional seminars on MRTDs, biometrics and border security were held in Qatar and Singapore. In addition to promoting best practices for related processes, these events highlighted the relevance of the MRTD Programme to ongoing efforts to prevent transborder movement by terrorists and other criminal elements.

The Public Key Directory Programme

Five new participants — Bulgaria, Hungary, Luxembourg, Norway and Sweden — joined the Public Key Directory (PKD) during the course of the year, bringing the total number of participants to 30 States and territories. Established in 2007 to simplify and modernize the exchange of ePassport information, the PKD provides a cooperative, interoperable regime for passport security that is

accessible to all Member States. As a means of detecting the alteration or counterfeiting of passports or the use of stolen passports by imposters, it is potentially a highly effective security measure. Observing the existence of a gap between the number of ePassport-issuing States and the number of PKD participants, the PKD Board emphasized that ePassport issuance and PKD participation must go hand-in-hand, as recommended in Annex 9.

ICAO renegotiated the contract with the operator of the PKD, Netrust. Under the new contract, the operator's fee will be reduced when the number of active PKD participants reaches 31.

Two workshops were conducted during MRTD symposia to promote greater participation in the PKD. The workshops emphasized the value for States of joining the PKD, which enhances the security and trustworthiness of any State's ePassport.

Implementation of the Universal Security Audit Programme

The Universal Security Audit Programme (USAP), established in 2002, remains a key component of ICAO's Comprehensive Aviation Security Strategy. The second cycle of USAP audits, launched in January 2008, focuses on identifying aviation security concerns in ICAO Member States, making recommendations for their resolution and providing on-site assistance.

ICAO teams completed 35 audits in 2011, bringing the total number of second-cycle audits to 129 (which includes 128 Member States and one SAR). The second cycle of audits is on track for completion by the end of 2013. Figure 5 shows global audit results as they relate to the implementation of the critical elements of an aviation security oversight system. Looking to the future, a Secretariat Study Group was established to develop proposals for the evolution of the USAP beyond the current audit cycle after 2013.

In addition to audits, one USAP Auditor Training and Certification Course was carried out in Montréal. USAP auditors also acted as observers during a European Union aviation security inspector cargo training course and during a European Commission inspection. In addition, they participated in two aviation security assistance missions.

Over the course of the year, eight Significant Security Concerns (SSeCs), involving five States, were identified during USAP audits under the mechanism approved by the Council in February 2010. Five of these SSeCs were subsequently resolved, as confirmed by USAP validation missions.

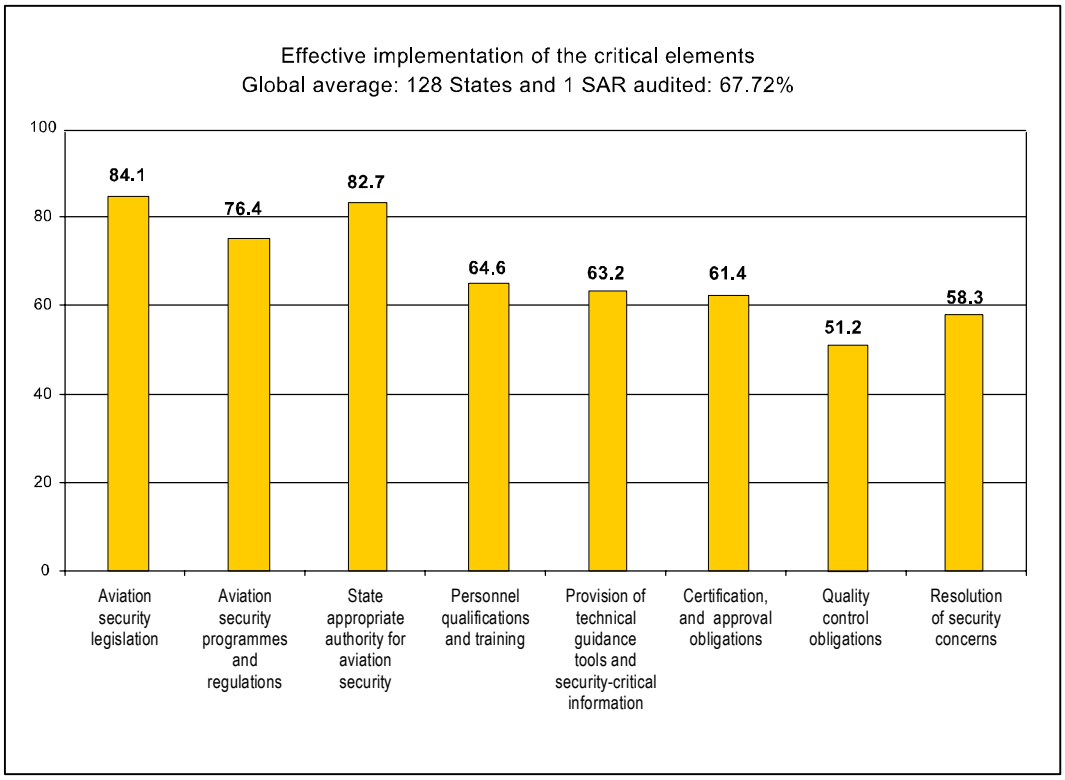


Figure 5. Global audit results — level of implementation of the critical elements of a security oversight system

Member States and regional organizations continued to provide valuable support to ICAO through the secondment of USAP auditors on a long- or short-term basis. Four experts were seconded on a long-term basis from Canada, France, Switzerland and the United States. In addition, the USAP roster includes experts from 63 Member States and two regional organizations who serve as USAP audit team members during short-term secondments.

International assistance and cooperation

Given its mandate to lead and support global efforts to establish sustainable civil aviation security regimes and oversight systems, ICAO continued to build partnerships with States, organizations, industry and other stakeholders in order to improve coordination of assistance efforts throughout the world. The Organization also provided assistance, guidance and standardized and tailored aviation security training courses and workshops to Member States in need.

Under its Implementation Support and Development — Security (ISD-SEC) Programme, ICAO put into practice a new strategy that provides for a more cohesive and coordinated ICAO-wide approach to aviation security assistance

and capacity-building activities. Under this approach, efforts are made to ensure that ISD-SEC activities incorporate Technical Co-operation Programme projects. Comprehensive Member State improvement plans were developed and initiated for five States and one regional organization. The plans detail the partnership between the Member State or region and ICAO, and they ensure that resources are properly allocated and used to achieve agreed milestones. Two improvement plans were developed as a result of surveys of States' aviation security needs.

At the regional level, activities included participation in meetings of regional bodies, such as the ICAO and Latin American Civil Aviation Commission Aviation Security and Facilitation Regional Group (AVSEC/FAL/RG), which sets priorities for standardizing aviation security practices across the region and for improving capacity-building efforts. In addition, regional training programmes subsidized financially by donor States were conducted in the North American, Caribbean and South American regions to the benefit of 27 States. These training programmes are expected to continue until the end of 2013.

Aviation security training

The development of aviation security training materials and oversight of a network of ICAO-affiliated training centres remained a major focus of the ISD-SEC Programme. In October, a meeting of the ICAO Aviation Security Working Group on Training discussed further development of training materials on human factors and air cargo security, as well as updates of the existing Aviation Security Training Packages (ASTPs). Seven ASTPs are available for sale: Basic; Cargo; Crisis Management; Exercise; Instructors; Management; and National Inspectors.

Three new Aviation Security Training Centres (ASTCs) located in Doncaster (United Kingdom), Mexico City and New Delhi were added to the worldwide network of 23 ASTCs overseen and supported by ICAO. Among other activities, these centres conducted 25 ICAO-sponsored courses and workshops for 495 aviation security specialists. Thirty-three additional instructors from all regions were certified in response to the growing demand for aviation security training, increasing the total number of certified instructors to 211.

ICAO continued to support the Professional Management Course (PMC) offered by Concordia University in Montréal, a predominantly Web-based programme that provides aviation security management personnel with new managerial skills. By year's end, 384 participants from 81 States had obtained the PMC certificate, up from 317 participants from 75 States in 2010.

Technical cooperation projects and initiatives

There were 17 national and four regional active technical cooperation projects which assisted civil aviation administrations and international airports to improve their security systems. Major achievements over the period included:

Asia and Pacific (APAC) Region

— continued assistance to 24 States and Administrative Regions 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 USAP-identified deficiencies and other aviation security related findings; and

— revision of DGCA Regulations and Procedures for the Directorates of Operations and Security in one State.

Caribbean and South American (CAR/SAM) Region

— conduct of an international seminar on facilitation with the participation of 18 States;

— conduct of an international seminar on the planning of major events affecting civil aviation with the participation of 14 States;

— conduct of an international seminar on the planning, promotion and management of infrastructures for cargo in airports with the participation of 13 States;

— consultancy in eMRTD aspects and action plan for the implementation of e-border and ePassport in two States; and

— procurement of security systems and equipment such as closed circuit television and X-ray scanners in two States.

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 to a large extent on actions requested by the 37th Session of the Assembly, including the hosting of an international conference on sustainable biofuels, training for States' action plans, and advances in the work programme of the Committee on Aviation Environmental Protection (CAEP). Also significant were the development of new environmental tools, enhanced cooperation with other UN bodies, various climate change initiatives, and outreach activities.

Actions requested by the 37th Session of the ICAO Assembly

States' action plans on CO_2 emissions reduction activities

ICAO has developed guidance material and a Web interface to support Member States in developing action plans to identify the most appropriate measures to reduce CO_2 emissions from international aviation and to assist States to implement the measures. The action plans will allow ICAO to assess progress made by States towards achieving the sector's global aspirational goals and to address specific needs identified by States through the provision of technical and financial assistance. ICAO, in collaboration with its Regional Offices, held regional workshops on State action plans in Bangkok, Dubai, Mexico, Montréal, Nairobi and Paris during the year. More than 200 representatives from 81 States representing 92.4 per cent of global revenue tonne-kilometres attended the workshops, with 81 focal points now trained.

Sustainable alternative fuels for aviation

ICAO continued to actively promote the formulation of regulatory and financial frameworks to ensure that sustainable alternative fuels for aviation are available in a timely manner and in sufficient quantities. Building upon the success of the ICAO Workshop and Conference on Aviation and Alternative Fuels of 2009, ICAO convened the Sustainable Alternative Fuels for Aviation (SUSTAF) workshop. Over 230 participants exchanged views and information relating to activities undertaken worldwide on sustainable alternative fuels for aviation. Discussions focused on the global harmonization of life cycle analysis methodologies, sustainability criteria, and legal and regulatory frameworks on availability of the fuels.

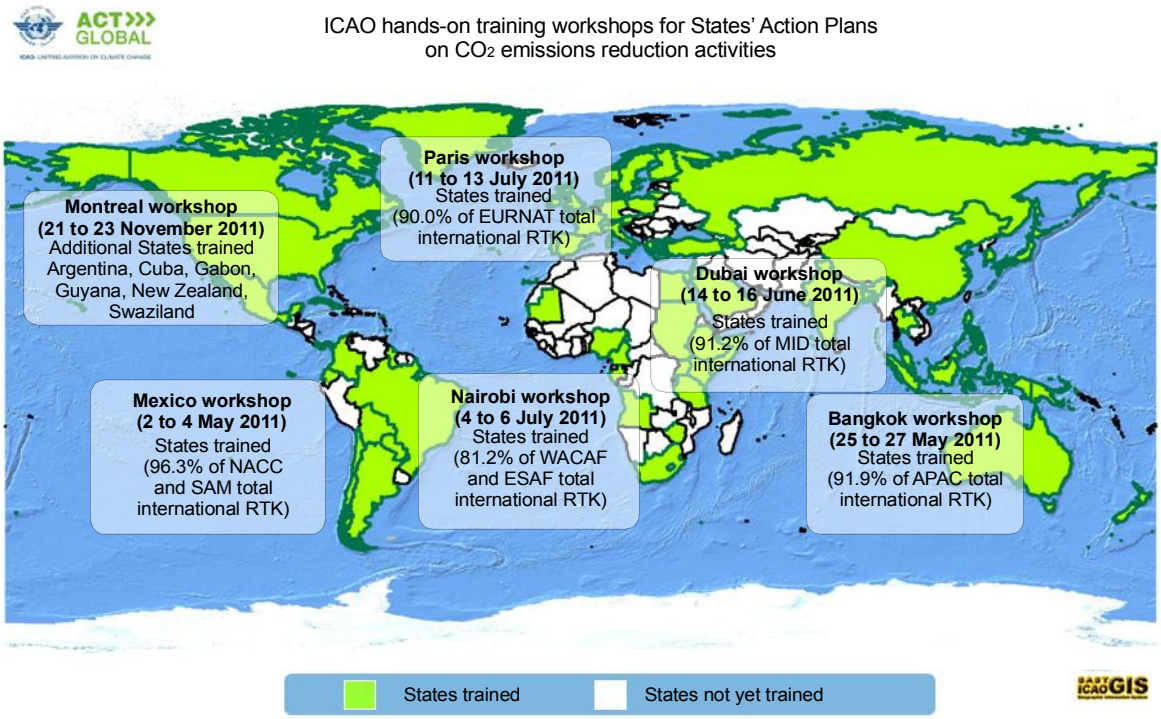


Figure 6. Regional hands-on training workshops

Committee on Aviation and Environmental Protection

CAEP advanced towards completion of the work programme of the Ninth Meeting of CAEP (CAEP/9), which aims to further develop the technical measures for reducing and limiting the environmental impact of aviation.

Amendments to Annex 16, Volumes I and II

The Air Navigation Commission (ANC), in its 186th session, reviewed two amendments to — and State comments on — Annex 16 — *Environmental Protection*, Volumes I and II. The technical amendments to Volume I were aimed at updating and improving certification procedures. Amendments to Volume II included, among a wide range of technical updates, a new Standard for emissions of nitrogen oxides (NO_X). Both amendments were approved by the Council at its 192nd session, with an applicability date of 17 November 2011.

Aircraft emissions

The development of an aircraft CO_2 certification Standard is one of the most challenging tasks in the CAEP/9 work programme. The CO_2 Task Group (CO_2TG), under the emissions technical working group, has focused on the development of a certification requirement which will be underpinned by work on

metric systems, procedures and applicability and implementation. The analyses resulted in the development of several metric system options, and the population — with manufacturer's data — of a Common Data Set (CDS). The CO_2TG is working towards the selection of a single metric system, before the focus shifts to the regulatory process. The CO_2TG has conducted a significant amount of technical analyses and continues to aim for the technical definition of a CO_2 Standard by 2013.

Aircraft noise

CAEP further studied options to limit or reduce the number of people exposed to significant aircraft noise, focussing on technical options. The noise technical working group, in collaboration with the CAEP modelling working groups, continues to assess future noise stringency options. This assessment will be available for consideration by the 2012 CAEP Steering Group. An Independent Expert (IE) Panel Review began an analysis of state-of-the-art noise reduction technologies and will report back to the noise technical working group in 2012.

Environmental tools

ICAO Green Meetings Calculator

On the 2007 World Environment Day, UN Secretary-General Ban Ki-moon publicly called for the UN system to become climate neutral and more sustainable. This Climate Neutral Initiative calls for all UN system organizations to reduce their own greenhouse gas emissions as much as possible and to "green" their operations. The ICAO Green Meetings Calculator (IGMC) assists the UN and other organizations in managing their carbon emissions arising from official travel undertaken to participate in international meetings. The tool calculates the optimal location for a meeting in terms of CO_2 emissions from air travel, based on the number of participants and their city of origin. While many factors may affect the decision for where a meeting should be held, the calculator helps facilitate the planning process. This calculator provides a valuable decision-making tool for organizations that hold international meetings and supports an environmentally-sound planning process to cut down their CO_2 emissions from air travel.

ICAO Fuel Savings Estimation Tool

Operational improvements can deliver significant reductions in aircraft fuel consumption. Up to now, however, no tool was available to assist States that do not have an automated means to estimate, model or report those benefits in a harmonized way. That changed with the creation of the ICAO Fuel Savings Estimation Tool (IFSET) which has the ability to capture the difference in flight trajectory performance in terms of fuel consumption before and after the implementation of operational improvements at local, regional or global levels. The tool will assist States to estimate and report fuel savings consistently to the relevant national authority and to ICAO. It will also facilitate the modernization

and infrastructure upgrades of a State's air navigation services which will help in reducing emissions.

Cooperation with other United Nations bodies

ICAO's work in the field of environmental protection, and notably climate change activities, involves cooperation with a number of other UN bodies, in particular the UN Framework Convention on Climate Change (UNFCCC) and its working groups. In 2011, ICAO participated in the following UN meetings:

- the Intergovernmental Panel on Climate Change (IPCC), 11th Session of Working Group III, Abu Dhabi
- the 5th IPCC Emissions Factor Database (EFDB) Meeting, Mumbai
- the Transitional Committee for the design of the Green Climate Fund (GCF), Mexico City
- the Issue Management Group (IMG) 5th meeting on Sustainable Management, Rome
- the UN Environment Management Group (EMG), 17th Meeting, New York
- the Executive Committee on Economic and Social Affairs (ECESA) plus Principals Meeting, Geneva
- the UN Conference on Sustainable Development (UNCSD) Second Intersessional meeting, New York
- the UNFCCC Climate Change Conference, Bonn
- the UNFCCC Climate Change Conference, Panama City
- the UNFCCC Climate Change Conference, Durban — including the 17th Conference of the Parties (COP17)

During the COP17 conference, ICAO submitted a report and provided a statement to the Subsidiary Body for Scientific and Technological Advice (SBSTA) outlining recent developments with respect to international aviation and climate change. In addition, ICAO and the International Maritime Organization (IMO) promoted awareness of transport-related environmental initiatives, under the theme "Emissions from International Transport: Global Actions for Global Industries." ICAO's presentation focused on the implementation of concrete actions towards the achievement of the global aspirational goals adopted by the 37th Session of the Assembly. ICAO also participated in the UN System side event on mitigation actions and the International Monetary Fund (IMF) side event on climate finance.

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 2010 using the United Nations Environment Programme's (UNEP) greenhouse gas emissions calculator as well as ICAO's CO_2 emissions calculator. The total ICAO carbon footprint in 2011 was calculated at

approximately 6 080 tonnes of CO_2, with staff air travel, 40 per cent, and energy and electricity, 60 per cent, accounting for most of the CO_2 emissions. ICAO also participated in the meetings of the UN Issue Management Group (IMG) on sustainability management and continued to provide support to UN Organization members of this group in the development of tools and guidelines for the preparation of aviation-related greenhouse gas emission inventories.

Outreach and public awareness activities

Two issues of the *ICAO Journal* featured an environmental theme (issues 3 and 6), with reviews, commentary and news from across the aviation sector. Following the SUSTAF workshop, a report was published on the progress made by the aviation biofuels sector. ICAO delivered a powerful message at the COP17 meeting, highlighting aviation's contribution across the economic, environment and social pillars of sustainable development. 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. These events included:

- Association Aéronautique et Astronautique de France (3AF) and the American Institute of Aeronautics and Astronautics (AIAA) — 3AF/AIAA Aircraft Noise and Emissions Reduction Symposium (ANERS), Marseille
- African Civil Aviation Commission (AFCAC), 11th Air Transport Committee Meeting, Nairobi
- Air Transport Action Group (ATAG) Sustainable Aviation Workshop, Rio de Janeiro
- Bucharest Air Law Conference, Bucharest
- Commercial Aviation Alternative Fuels Initiative (CAAFI) General Meeting, Washington, D.C.
- Eye on Earth Summit, Abu Dhabi
- G20 Experts meeting, Washington, D.C.
- Green Aviation Research and Development Network (GARDN) Fly Green — Making our Dreams a Reality, Ottawa
- Sustainable Way for Alternative Fuels and Energy in Aviation (SWAFEA) Synthesis Conference, Toulouse

Voluntary support for ICAO's environmental work

France and Italy maintained their support for ICAO's work in the environmental area with the secondment of an Associate Environmental Officer and one Junior Professional Officer, respectively. The Environment Programme also benefited from voluntary contributions from Norway and Chile.

Technical cooperation projects and initiatives

There were 19 national and four regional active technical cooperation projects related to environmental protection.

Asia and Pacific (APAC) Region

— conduct of a study regarding dual airport operations in the metropolitan area of a State; and

— development of an air traffic forecast for the capital region for one State.

Caribbean and South American (CAR/SAM) Region

— establishment and hiring of a team of 12 experts for the elaboration of a master and business plan for one airport;

— procurement of a jet blast deflector; and

— support to one State in the extension of airports and consolidation of the city as an important international air hub.

SUSTAINABLE DEVELOPMENT OF AIR TRANSPORT

In 2011, the Organization expanded its efforts towards the creation of a favourable global regulatory environment for the sustainable development of international air transport. By promoting dialogue among Member States and by providing innovative aviation data tools on line, ICAO facilitated the signing of bilateral and multilateral air services agreements, while making available practical guidance for the adoption and implementation of policies and practices designed to enhance the sustainable development of international civil aviation. Innovations described below were well received by Member States and the world aviation community.

Meteorology

ICAO oversaw a SIGMET advisory trial this year in the AFI Region and parts of the Asia/Pacific Region. These efforts seek to resolve long-standing difficulties encountered by many States in the issuance and dissemination of SIGMET.

The World Area Forecast System Operations Group (WAFSOPSG) agreed at a meeting in March 2011 to evolve certain cloud forecast presentations from trial to operational status as of November 2013, for use in pre-flight planning. The satellite distribution (SADIS) system broadcast has also been enhanced by improving the availability of gridded world area forecast system (WAFS)

forecasts for icing, turbulence and cumulonimbus clouds on the Web-based SADIS file transfer protocol (FTP) service. These forecasts will greatly assist operators in pre-flight planning.

Improvements to the quality of MET information through updates to related quality management system (QMS) guidance were also completed. The establishment and implementation of QMSs for aeronautical meteorological service, which was a Recommended Practice, was upgraded to a Standard and adopted by the Council in 2011, with an applicability date of November 2012. Many States have embarked on the exercise, and a few have obtained ISO 2000:2008 certification.

Aviation frequency spectrum

International provisions for spectrum management are updated during World Radiocommunication Conferences (WRCs) held every four years. Aeronautical communications, navigation, and surveillance (CNS) functions are critical to the safety of aircraft in flight and require interference-free access to a sizeable portion of the available radio frequency spectrum. Updates to the ICAO Position for the World Radiocommunication Conference 2012 (WRC-12), were approved by Council in June. ICAO continued to develop supporting material for the WRC process and conducted frequency spectrum workshops in Paris and Dakar. The ICAO position was promoted and defended at various WRC preparatory meetings conducted by the International Telecommunication Union (ITU) and regional telecommunication organizations.

Aeronautical Information Management

The Organization developed a roadmap for the transition of the traditional alphanumeric code to support future system-wide information management (SWIM) approaches.

Further to the existing SARPs and the roadmap for transition to aeronautical information management (AIM), all ICAO Regions prepared a transition plan to AIM from AIS and are now in the process of implementation.

Air transport policy developments

The liberalization of international air transport regulation continued to evolve at the bilateral and regional levels. New bilateral air services agreements and “open skies” agreements were concluded by several States. These agreements are generally aimed at introducing more flexibility on designations, route rights, capacity, frequencies, code-sharing and tariffs. At the multilateral level, the World Trade Organization (WTO) carried on with the second review of the General Agreement on Trade in Services (GATS) Annex on Air Transport Services. The Secretariat monitored developments at the WTO where proposals to extend the coverage of the Annex are still under review.

WASA online database

The World Air Services Agreements (WASA) online database was launched, replacing the "Database of the World's Air Services Agreements" on CD-ROM (Doc 9511). The new database contains texts of current bilateral air services agreements and amendments in PDF format. It also includes codified summaries of the main provisions of bilateral air services agreements and amendments, which are registered with ICAO by its Member States, as well as non-registered agreements obtained from other sources such as official national websites.

Passenger rights

The general trend towards the introduction of regulatory mechanisms aimed at protecting airline passengers, already observed in previous years, was confirmed. In the United States, the Department of Transportation Rule Enhancing Airline Passengers Protections expands existing regulations (in the areas of lost baggage compensation, disclosure of optional fees, or tarmac delay limits), and increases fines in cases of violations. In Europe, the scope of the EU 261/2004 passenger compensation regulation continued to give rise to debates, while the EU Consumer Rights Directive was adopted, prohibiting online traders from charging consumers more for paying by credit card.

ICAO continued to monitor developments regarding voluntary commitments to, and government regulation of, consumer interests. In particular, the Summary of Voluntary Commitments and Regulatory measures, referencing consumer protection rules, was restructured to improve readability and updated to take into account recent developments.

Facilitating air services negotiations

ICAO conducted the fourth Air Services Negotiation Conference (ICAN/2011) in Mumbai with a record attendance of 350 delegates from 65 States, as well as representatives of four regional organizations. During the conference, more than 370 formal and informal bilateral meetings were held, leading to the signing of more than 120 bilateral air services agreements and arrangements. The meeting coincided with India's centennial celebration of the commencement of its commercial aviation operations.

Worldwide Air Transport Conference

The 37th Session of the Assembly called for the convening of an air transport conference at an appropriate time during the triennium. In June 2011, the Council decided on the dates of 18 to 22 March 2013 for the sixth Worldwide Air Transport Conference (ATConf/6) at ICAO Headquarters in Montréal. The conference will assess the current situation and determine ways by which to improve the regulatory environment, while promoting the sustainable development of air transport. It will also look at key issues such as market access, air carrier ownership and control, consumer protection, fair competition and safeguards, taxation, the economics of airports and air navigation services, as

well as measures to improve the implementation of ICAO regulatory policies and guidance.

Infrastructure management

A revision of *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082) was approved by the Council at its 194th Session and will be published as the Ninth Edition. 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 also revised and updated seven case studies on Commercialization, Privatization and Economic Oversight of Airports and Air Navigation Services Providers (ANSPS), and added nineteen new cases to this database.

ICAO aeronautical charges online

Based on the *Tariffs for Airports and Air Navigation Services* (Doc 7100), a new online product called "Aeronautical Charges" was launched, listing airport and air navigation service charges levied in 184 States.

In the field of training, three courses on airport user charges were conducted under the Airport Management Professional Accreditation Programme (AMPAP), developed jointly by ICAO and the Airports Council International (ACI).

ICAO Statistics Programme

The implementation and deployment of the recommendations of the Tenth Session of the Statistics Division meeting (STA/10) started with the release of the confidentiality clause for On-Flight Origin and Destination (OFOD), the request for nomination of focal points in charge of statistical collection matters and the dissemination of a worldwide list of low-cost carriers. An on-the-job training session on statistics was conducted in ICAO Headquarters. It provided to some French-speaking African States practical experience in applying statistical methods and filling statistical forms. In monitoring the sustainable development of air transport, and in an effort to better assess the achievement of the aspirational goals relevant to aviation's impact on climate change, ICAO implemented a fuel data collection by air carrier that will enable the measurement of fuel efficiency progress.

New ICAO statistical online platform

A new statistical online platform, ICAO DATA+, was developed as a global comparative aviation data tool that will meet the high standards for data distribution required by Member States, regional civil aviation organizations and

external users. The first module of ICAO DATA+ was made available. It allows access to aviation statistics in a new and graphic environment, making it easier to report on, browse and access data that have traditionally been provided in the form of statistical tables. This user-friendly statistical platform enables users to change the graphic representation of the data according to the selections made. The range of data collected through the ICAO Statistics Programme will be made available through this platform on a sequential basis. The first available module covers the monthly air carrier traffic statistics collected through Air Transport Reporting Form A. To access the online platform, individuals must register with ICAO on the following link www2.icao.int/en/G-CAD.

Forecasting activities

The Africa-Indian Ocean Traffic Forecasting Group (AFI TFG) and the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) Traffic Forecast Sub-Group (TF-SG) meetings were held to provide assistance to the AFI Planning and Implementation Regional Group (APIRG) and MIDANPIRG for the development of future planning of air navigation services in their respective regions. The objective of these two meetings was to develop traffic forecasts, which focused on future passenger volume and aircraft movements, as well as city-pair forecasts and peak-period analyses of respective FIR data. Two reports, the *Africa-Indian Ocean Regional Traffic Forecasts 2010 — 2030* (Doc 9970) and the *TF SG/4 – Report* (Cairo, Egypt, 15–17 November 2011), were published and will be presented to the next APIRG and MIDANPIRG meetings, respectively, for their evaluation and for the future planning and implementation of air navigation facilities. The AFI TFG meeting was attended by 15 participants from five African Member States and one international organization, while the TF-SG was attended by 16 participants from five Middle East Member States.

ICAO published a new and innovative study, the *Global and Regional 20-year Forecasts — Pilots, Maintenance Personnel, Air Traffic Controllers* (Doc 9956). This study, available in all languages, provides information to States, aircraft and airport operators, air navigation service providers, and aviation training organizations on the consequences of expected traffic and fleet growth on the demand for qualified aviation personnel. Shortages or surpluses in training capacity are quantified globally and by region, with a view to helping States identify potential issues and adapt their training infrastructure accordingly.

Economic analysis

Studies on regional differences in international airline operating economics continued to be conducted. They continue to provide a unique 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. The results of these studies also provide the basis for calculating the factors to prorate passenger revenues from interline journeys by the IATA

Prorate Agency. Under a similar scheme, traffic and financial analyses were conducted to calculate the basic air mail conveyance rate for the Universal Postal Union (UPU). Both these deliverables generated revenue for ICAO.

Joint Financing Agreements

The Organization continued to undertake its responsibilities for 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. Since 1 January, the administration of these agreements is being carried out by the Joint Financing Unit, under the supervision of the Chief, Economic Analysis and Policy Section. At the invitation of the Danish and Icelandic authorities, the Joint Support Committee visited some of the jointly financed installations in Iceland and in Greenland.

Voluntary support for ICAO's sustainability work

The People's Republic of China supported ICAO's work toward sustainable air transport development by seconding a Database Officer and a Market Forecasting Officer. The Programme also benefited from the secondment of two interns from France.

SUPPORTING IMPLEMENTATION STRATEGIES

SUPPORTING IMPLEMENTATION STRATEGIES

LEGAL SERVICES AND EXTERNAL RELATIONS

Compensation for damage caused by aircraft to third parties arising from acts of unlawful interference or from general risks

The Preparatory Commission for the establishment of the International Fund held two meetings, the first in Geneva in March, and the second in Ottawa in June. The Commission continued its work on a number of issues, including the regulations of the international fund; regulation on the period and amount of initial contributions to the fund; guidelines on drop-down; guidelines on investment and financial governance arrangements; guidelines on compensation and arrangements with insurers on claims handling; and rules of procedure for the Conference of Parties.

A State letter was issued informing of:

1) the decision of the 37th Session of the Assembly urging States to bring about the entry into force of the two relevant Conventions adopted in 2009 and urging States with experts having the relevant expertise to join in the work of the Preparatory Commission; and

2) the adoption in 2010 of Assembly Resolution A37-22 (*Consolidated statement of continuing ICAO policies in the legal field)* which, *inter alia*, urges all States to ratify as soon as possible the two Conventions adopted in 2009.

Legal issues relating to unruly passengers

The reactivated Secretariat Study Group on Unruly Passengers held its first meeting in Montréal in May and its second, hosted by France, in Paris in October. The Study Group recommended that further work be carried out to study the possibility of modernizing 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 Council decided at its 194th Session that a subcommittee of the Legal Committee be established for this purpose.

Promotion of Beijing Instruments

Pursuant to Assembly Resolution A37-23, *Promotion of the Beijing Convention and the Beijing Protocol of 2010*, the Council and the Secretariat continued to promote the ratification of the Beijing instruments. One seminar was organized in

April in Bucharest, Romania, under the joint auspices of ICAO and the Central European Rotation Group (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia); another seminar was organized in May in Tegucigalpa, Honduras, under the joint auspices of ICAO and the Central American Corporation for Air Navigation Services (COCESNA).

International interests in mobile equipment (aircraft equipment)

On behalf of the Council, and in its capacity as the Supervisory Authority of the International Registry, the Secretariat continued monitoring the operation of the Registry to ensure that it functions efficiently in accordance with Article 17 of the Cape Town Convention of 2001. A new contract was concluded with the Registrar, Aviareto Ltd., for a second five-year term commencing 1 March 2011, as a result of the Council's decision in October 2009, at its 188th Session, to reappoint them.

Adherence of South Sudan to the Chicago Convention

The Republic of South Sudan deposited, on 11 October with the Government of the United States, its notification of adherence to the *Convention on International Civil Aviation*. The adherence took effect on 10 November, making South Sudan the newest Member State of ICAO and bringing the number of Member States to 191.

A chronological record of States that ratified or adhered to multilateral air law instruments during 2011 can be found on the ICAO website as part of the Legal Affairs and External Relations Bureau's Treaty Collection, where status lists of international air law instruments are continually updated.

Familiarization Course

The 50th ICAO Familiarization (FAM) Course took place at ICAO Headquarters in July with the financial support of the European Union, with whom ICAO had signed a grant agreement in 2010. The aim of the ICAO FAM Course is to disseminate information on the activities of the Organization as widely as possible and to promote them, especially to those staff of national administrations who deal on behalf of their departments with ICAO or who have a wide range of responsibilities pertaining to civil aviation. Participants are selected amongst candidates nominated by their national administrations. The 50th FAM Course was attended by 50 participants from 38 States and two intergovernmental organizations.

Working Group on Governance (Policy)

During its 193rd Session, the Council "requested that the President establish a working group which would provide guidance on how to proceed with Significant Safety Concerns (SSCs) when the Secretariat had exhausted all options to encourage improvement" of safety oversight of a State. The President of the Council allocated this task to the Working Group on Governance (Policy) (WGOG). The WGOG held two meetings on this subject, in June and November. During its 194th Session, the Council noted the WGOG's interim oral report: in essence, it was agreed to consider ways to further encourage surveillance of foreign operators from States with SSCs in order to preserve safety, and to continue working towards the establishment of a clear step-by-step process to be applied to all States with SSCs while adaptable in view of specific situations, culminating with the procedure under Article 54 j) of the Chicago Convention. The WGOG's final report on this matter will be presented in early 2012.

Tripartite Consultative Committee to discuss issues related to privileges and immunities

During its 193rd Session, the Council delegated to its President the authority to appoint a group of selected members of the ICAO Council to participate in meetings of the Tripartite Consultative Committee established at the initiative of the Government of Canada. The purpose of the Tripartite Consultative Committee, which is composed of representatives from the Office of Protocol of Canada, the Office of Protocol of Quebec, and ICAO, is to discuss issues related to the privileges and immunities of Representatives accredited to ICAO and questions of implementation of the existing agreements or texts related thereto. The Committee held two meetings, in May and November.

HUMAN RESOURCES

As at 31 December 2011, 77 States were represented in the Secretariat in the Professional and higher categories. There were 598 established posts within ICAO of which 549 posts were financed by the Regular Programme budget and 49 posts were financed by the Administrative and Operational Services Costs (AOSC) fund: 286 posts were established in the Professional and higher categories and 312 posts in the General Services category. A total of 43 established Regular Programme posts were vacant. This includes posts vacant due to the mandatory vacancy rate requirement and to ongoing recruitment actions.

A total of 700 staff were in service on 31 December 2011, including 527 staff financed by the Regular Programme budget, 71 staff financed by the AOSC fund and 102 staff financed by extra-budgetary funds.

The overall representation of women reached 31 per cent in the Professional and higher categories. At the senior level, the representation of women stood at 40 per cent for D-2 posts, and at 18 per cent for D-1 posts. As part of ICAO's outreach efforts, seven qualified women were awarded the ICAO Women in Aviation International Training Scholarship and completed training in the Air Navigation and Air Transport Bureaus.

With the implementation of the Ninth Edition of the *ICAO Service Code* on 1 January, changes were introduced in the areas of recruitment, contractual arrangements, ethics, staff development, and administration of justice. Furthermore, a policy on individual contractors and consultants was implemented. An Ethics Framework was also developed and approved by Council for implementation. Procedures to support the implementation of the Ethics Framework were developed and will be overseen by the newly appointed Ethics Officer.

A workforce planning mechanism was established, consisting of strategic and comprehensive triennial and annual Human Resources Action Plans (HRAPs) focussed on the Strategic Objectives of the Organization. These HRAPs are accompanied by detailed implementation guidelines, timelines for the completion of actions, and clear definition of roles, responsibilities and accountabilities of all managers in HR and in all Bureaus. This mechanism enabled synergies to be achieved through organizational restructuring in most major programmes and offices at Headquarters. Overall, the HRAPs have had a positive impact on the planning and management of workforce planning activities, especially with regard to organizational and job design, vacancy management and contract management.

The assessment and review mechanisms of the online Performance and Competency Enhancement (PACE) system were strengthened in order to better evaluate and recognize the achievements, performance and competencies of staff. This improvement in ICAO's performance management system is intended to further assist in the enhancement of the competencies and skills of staff members, and to build and strengthen their capacity and ultimately that of the Organization.

Learning is a responsibility which is shared by both the Organization and staff members. The Organization provides opportunities and resources required to support identified learning needs; staff must demonstrate their commitment and willingness to participate in staff development activities. This year, 59 training activities were held and 663 staff received training in various areas, ranging from technical to non-technical and soft skills development as well as language training. Planning was initiated for the development of e-learning courses which are to be made available on the ICAO Learning Management System (i-Learn) platform. This new tool will enable staff to register online for courses, track their skills and knowledge development, and fulfil their learning needs. Pilot testing will be introduced on a phased-in approach.

The organization continued to benefit from the contributions of 29 secondees and gratis personnel, made possible through partnership arrangements with Member States and aviation authorities. This year, ICAO welcomed 23 new gratis personnel.

The automation of human resources processes progressed further with the launch of the online e-recruitment system and a leave management module. Workflow and work procedures were streamlined to enhance quality and timeliness of services to internal and external clients. Modernization of the HR business process continued, in tandem with the implementation of automation.

Business continuity management

ICAO undertook the implementation of business continuity management (BCM), in line with other UN System organizations, in order to strengthen the Organization's ability to respond to risks and to maintain continuity of its critical business processes at a minimum-agreed level following disruptive events. A Business Continuity Planning Report was drafted. It details information required by managers to determine the impact of a crisis and to effectively respond to it and provides a structure for maintaining critical functions and processes.

LANGUAGE AND PUBLICATIONS

The Language and Publications Branch (LPB) handled 8.72 million words, compared to 12.13 million words in 2010, using 45 per cent outsourcing and 55 per cent internal resources. Interpretation was provided to 1 259 sittings compared to 1 595 in 2010. The production of saleable publications decreased from the 2010 level, 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 63 648.

LPB was restructured as a result of the 2011-2012-2013 budget approved by the 37th Session of the Assembly. The restructuring measures were intended to provide a streamlined, transparent, lean and competitive language service to meet the needs of the Organization. The objective was to make the service more cost-efficient by:

— enhancing the management of language services including quality of translation, outsourcing and coordination between interpretation and translation;

— streamlining activities in the provision of language services, achieving parity between languages and optimizing language resources to meet the demand; and

— aligning ICAO productivity standards for language services with the UN common system.

The new structure enables ICAO to support its high-level language and quality standards through improved efficiency rather than through additional funding. The new streamlined structure is based on versatility of staff members to reinforce upstream activities, i.e. terminology, referencing, outsourcing, and administrative support, so as to enhance overall productivity. To this end, training for these staff members started in June and will continue throughout the triennium. Moreover, the administrative load carried by the Chiefs of Translation Sections was reduced so that they could devote more time to translation. In accordance with Assembly Resolution A37-25, *ICAO Policy on the language services*, regarding parity of languages, Chinese and Arabic interpretation services are now at par with the other languages. Adjustments will be made on the basis of changing circumstances and input from different quarters.

A draft policy on outsourcing was developed to ensure that all outsourcing activities related to requests for translation services are carried out in a rigorous and transparent manner, to achieve adequate quality at minimum cost within the framework of 60 per cent in-house translation and 40 per cent outsourced. The policy establishes 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 describes the mechanism to be applied in relation to quality management of outsourced translations, to ensure that the work has been carried out in full accordance with specific instructions and terms, and that it is complete and accurate.

After evaluating several computer-assisted translation (CAT) tools, a software programme was selected and implemented in LPB at the end of the year. An immediate benefit will be an increase in the quality and consistency of translations, both in-house and outsourced. Productivity gains could also be realized over time through improved efficiency in the processing of publications workflow derived from the CAT software. A pilot project was established to ensure the software's compliance with LPB requirements. All LPB staff will be trained in this software.

RECORDS AND WEB MANAGEMENT SYSTEM

Following a business case study carried out in 2010, ICAO commenced implementation of an Electronic Document and Record Management System (EDRMS) at Headquarters and Regional Offices. The objectives for deploying such a system are to modernize and streamline ICAO's document and records management processes and procedures worldwide and to improve efficiency. The standardized PRINCE 2 project management procedure and structure are used for the implementation phase of this project, facilitating, among other gains for the Organization, communication between future users of the system and technical personnel involved in the system design and introduction. A detailed

workflow mapping in the Records Management area was finalized, and the proposed solution is scheduled to be tested on a limited scale. A detailed workflow mapping for the Document Management part of the project is in progress. The efficient integration of all information management-related initiatives, including the Web Content Management (WCM) project, will be crucial for the success of the project. Substantial improvement in efficiency of ICAO administrative processes is expected after the full implementation of the system.

In the context of the modernization and enhanced security of the ICAO information infrastructure, the ICAO-NET website serving as the main source of information on ICAO activities was migrated to the Secure Portal. This required substantial changes in the access procedure for this website. Thanks to the excellent cooperation with Member States, the process was successfully finalized and the legacy application was deactivated at the end of the year.

Continuous efforts to improve the efficiency of the ICAO administration are reflected in numerous concrete projects (EDRMS, WCM, etc.). The overall progress in the use of modern Web-based technologies within the Secretariat and the work of the Governing Bodies allowed for substantial reduction of documentation produced in paper format. This led not only to savings in document production costs but to concrete environmental benefits as well.

INFORMATION AND COMMUNICATION TECHNOLOGY

Throughout the year, activities continued to focus on improving information security, strengthening the infrastructure, and developing information and communication systems further in order to enhance the overall efficiency and effectiveness of ICAO. Specific activities included:

— “One-ICAO” IT infrastructure and modernization

  • inclusion of all Regional Offices in the ICAO internal network. This facilitated communications and collaboration through access to organization-wide applications such as Agresso and the Secretariat website and led to a reduction in travel costs;

  • establishment of a disaster recovery plan to ensure that all the Organization’s information and IT services required for business continuity are recoverable in the event of a disaster.

— ICAO Web management project

  • successful completion of phase one of the ICAO Web Content Management (WCM) project, which involved the modernization of the ICAO public website;

- completion of the new ICAO-NET website in early 2011 with enhancements to its security and user functionality;

- successful upgrade of the Council Secure website to allow easier and quicker access to necessary documentation and to meet the needs of Council Members. This initiative contributed to a reduction in the amount of paper used in ICAO.

— Major projects completed for ICAO Bureaus

- development and delivery of the World Air Services Agreements (WASA) online database, a website where users can search registered and non-registered bilateral agreements based on the characteristics of the agreements;

- development of a new recruitment system (eRecruiter) for both the Secretariat and field experts. This new, user-friendly system allows for a transparent recruitment process, regular and timely communications, and a “paperless” process;

- support in the development of several Electronic Safety Tools and of the Environment website.

The ICT Section established a project management framework for all ICT projects and initiated the delivery of a new platform portal which may be leveraged to a full Project Management Office (PMO) model. The project has numerous benefits, among them ensuring successful project delivery and the introduction of PMO functions at ICAO.

In connection with the implementation of the EDRMS project, ICT initiated a proof of concept with the Records and Web Management Section to create a prototype platform for user awareness and knowledge building. A framework will be extracted from this proof of concept to provide the business governance and technical foundation to the EDRMS that will be designed around three fundamental principles: People-centric; Workflow-Focused; and Component-based.

Furthermore, an IT Management Framework was established in ICAO to guide and monitor all information management aspects that have an impact on the entire Organization.

REVENUE-GENERATING ACTIVITIES

Revenue-generating activities (RGA) and products of the Reproduction, Sales and External Distribution Services (RSED) generated approximately CAD 8.3 million in gross revenue. This amount represents approximately 56 per cent of the total RGA gross revenue for the year. Net revenue derived from RSED activities and services was CAD 4.3 million, which represents a significant

portion of the Ancillary Revenue Generation Fund (ARGF) committed contribution of CAD 4.37 million to the Regular Programme Budget.

ICAO'S POLICY ON REGIONAL COOPERATION

A Memorandum of Cooperation (MOC) between the European Union (EU) and ICAO covering the areas of aviation safety, aviation security, air traffic management, and environmental protection, was signed at Montréal and Brussels on 28 April and 4 May, respectively. The MOC entered into force provisionally on 4 May. It will enter into force definitively upon completion of the EU's internal procedures and an exchange of respective notifications. The first meeting of the Joint Committee (JC) under the MOC between the EU and ICAO was held at ICAO in September. At this meeting, two formal Joint Committee decisions — the first relating to the adoption of the safety annex, and the second carrying the approval of the Working Arrangement (WA) on the ICAO Accident/Incident Data Reporting (ADREP) System and the European Coordination Centre for Accident and Incident Reporting Systems (ECCAIRS) — were signed.

Several initiatives were taken with organizations in the Asian and African regions with regard to the signing of memoranda of cooperation. Meetings were held in May and July with the African Civil Aviation Commission (AFCAC) and the African Union (AU), respectively, and action agreed upon with regard to the implementation of the MOCs already signed by ICAO with these bodies. In addition, regional discussions were held with the Arab Civil Aviation Commission (ACAC), the European Civil Aviation Conference (ECAC) and the Latin American Civil Aviation Commission (LACAC) with regard to the implementation of MOCs already signed with these bodies.

REGIONAL COORDINATION

The ICAO Knowledge Sharing Network (IKSN) was rolled out to the Regional Offices in the third quarter. The Regional Offices, along with ANB and ATB, are expected to begin fully using IKSN in 2012 to manage their programmes, projects and respective activities, thus providing the Organization with a uniform project management tool for the substantive bureaus/offices as well as a reporting tool to the Council.

Business Continuity Plans (BCPs) were developed for each of the seven Regional Offices. These plans advise of actions to be taken in the event that normal access to, or regular operations of, the Office are disrupted. The BCPs were activated this year in the Regional Offices in Cairo and Bangkok.

A new regional entity was created by Decision of the Council in the form of a Regional Sub-Office in the APAC region. The Office will be led by an ICAO-funded post. Other resources, including staff and facilities, will be voluntarily provided by a host State (yet to be named) and other States within the region.

The Regional Coordination and Communications Office was disbanded at year's end. The duties and responsibilities of the Office have been reassigned and staff redeployed within the Organization.

COMMUNICATIONS

Effective 1 January, the Public Information function of the Organization was transferred to the Office of the Secretary General and renamed Communications. The progressive strengthening of the Communications function included the appointment, in October, of a Chief of Communications reporting directly to the Secretary General. Provisions were also made for the appointment of a Communications Officer to replace the outgoing Public Information Officer.

During the year, emphasis was placed on specific elements of the strategic communications plan adopted last year, including:

— expanded media contacts;

— closer ties with the Regional Offices for handling media issues and contributing to ongoing communications activities; and

— contributions to a revitalized public website.

Substantively, the focus was placed on media and outreach activities designed to promote the implementation of the resolutions taken at the 37th Session of the ICAO Assembly in 2010, particularly in speeches, press releases and magazine articles.

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 Standards and Recommended Practices (SARPs), policies and procedures. This year, ICAO implemented a Technical Co-operation Programme valued at USD 70.15 million. Under various Trust Fund arrangements, 111 projects were carried out in 96 countries. Summaries of the projects implemented in 2011 can be found in Appendix 2 of this report, available online at: www.icao.int/Pages/annual-reports.aspx

Approximately 98.5 per cent of the total Programme funding was provided by developing 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 0.5 per cent of the Programme volume. The United Nations Development Programme (UNDP) core contribution amounted to 1.0 per cent of the Programme.

During the period from 2009 to 2011, the annual Programme decreased in volume by 48.8 per cent, primarily because of a few large pipeline projects which did not materialize before year end and large projects of which some activities were postponed by the governments for implementation in future years.

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

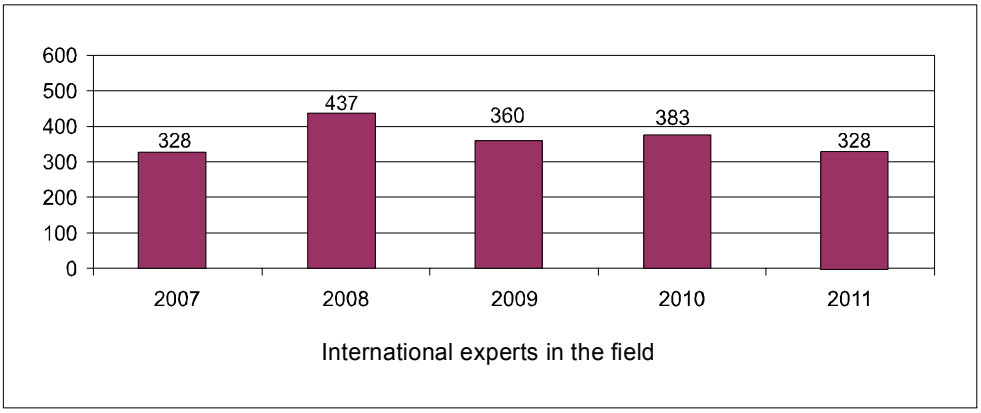
Region	2009	2010	2011
Africa	13.17	9.50	10.93
Americas	77.95	97.31	40.97
Asia and Pacific	20.60	11.97	9.31
Europe and Middle East	17.54	18.10	8.94
Total	**129.27**	**136.88**	**70.15**

As highlighted below, the three main components of projects implemented by ICAO were the recruitment of field experts, fellowships awarded to civil aviation department personnel selected by governments, and procurement of project equipment and services.

Recruitment of experts

Some 328 international field experts and consultants were recruited by ICAO. Together with 691 national project personnel, there were 1 019 serving officials, including 80 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.



A total of 770 fellowships were awarded for a combined duration of 529.8 work/ months, as described below:

— 274 fellowships were awarded under in-country and regional technical cooperation projects funded by recipient governments or donors.

— 496 fellowships were awarded under Memoranda of Understanding signed by ICAO with India, the Republic of Korea, Singapore and Thailand for the provision of training to be funded by these countries and administered by ICAO. Of those:

- 12 fellowships were for training at the Indian Aviation Academy in the fields of airport cargo management and airport operations management;

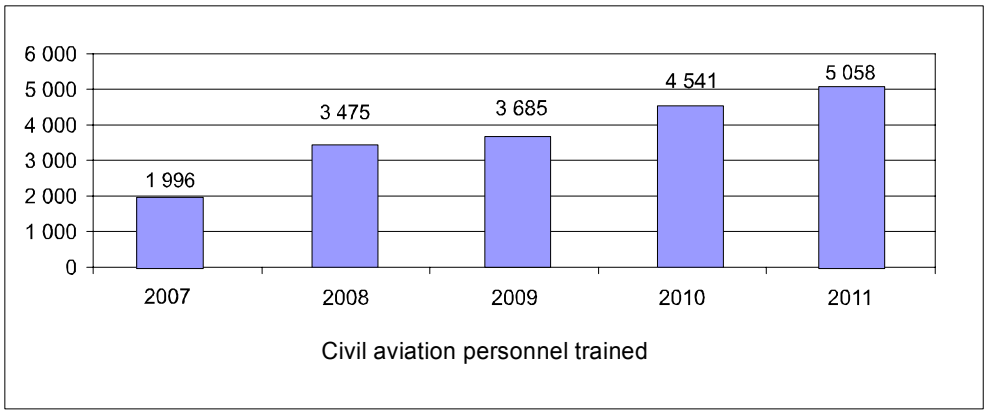
- 202 fellowships were for training at the Korea Civil Aviation Training Centre in the fields of Doppler VOR maintenance; global navigation satellite systems (GNSS); airport operations; aviation security; radar approach control; Annex 14 — *Aerodromes*; air navigation policy; radar concepts; airport terminal operations; Instrument Landing Systems (ILS) maintenance; and aviation policy for executives;

- 90 fellowships were for training at the Singapore Aviation Academy in the fields of airport terminal operations and management; crisis management in aviation security; civil aviation management; communications, navigation and surveillance/air traffic management (CNS/ATM); international air law; emergency management; state safety programme; safety oversight inspectors engineering, flight operations and maintenance; and safety oversight management; and

- 192 fellowships were awarded to participants in courses held at the Civil Aviation Training Centre of Thailand on aviation English language proficiency interviewer/rater; dangerous goods management; human factors for operational personnel; instructor training; performance-based navigation; and safety management systems.

In addition, ICAO experts recruited through technical cooperation projects provided in-country training in various fields for 4 014 civil aviation administration 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 274 national staff benefited from training in new technologies and in the operation of equipment purchased through ICAO. Training funds within procurement contracts totalled USD 0.98 million.

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 civil aviation administrations, which greatly benefit from the training and retention of a workforce of qualified aviation safety and security personnel, including inspectors.

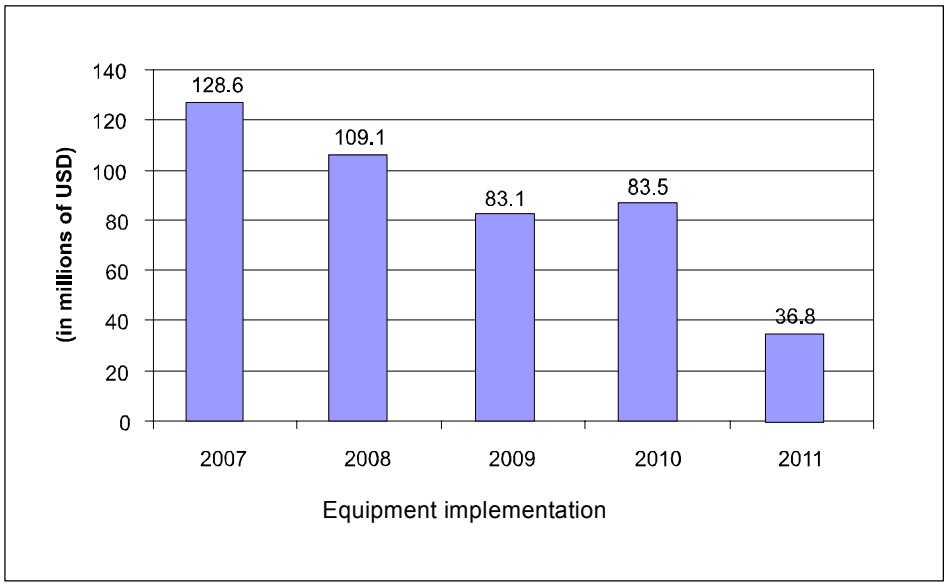


Equipment and subcontracts

A total of 74 purchase orders and subcontracts were issued for the Technical Co-operation Programme; the total field procurement implementation amounted to USD 36.8 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.

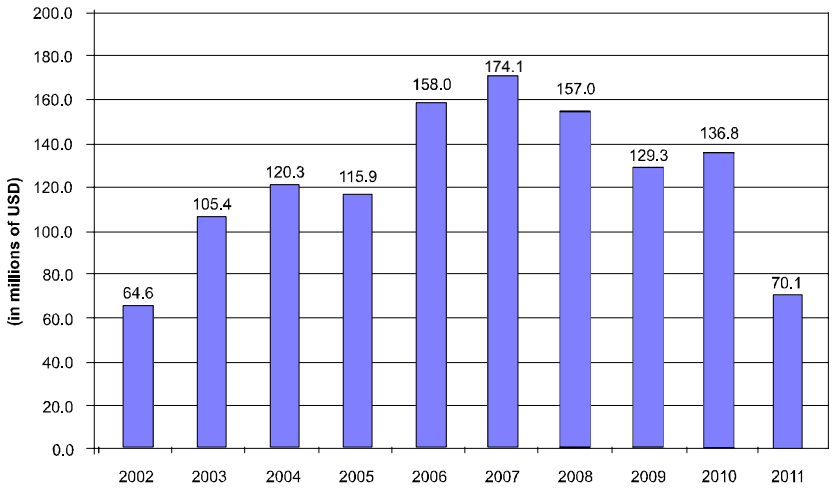
A further 1 826 purchase orders and subcontracts (including direct purchase orders) for CAD 10.9 million were issued by TCB covering procurement of equipment and services for the ICAO Regular Programme and Technical Co-operation Bureau administrative requirements. The most significant project implemented was the contract for the Environmental Market-based Measures Study for CAD 236 080. Other major procurements included the Web-based USOAP Training Course (CAD 280 335), Oracle licenses and support (CAD 399 890), Microsoft Enterprise Agreement Advisor (USD 597 430), ecommerce platform (CAD 554 100) and Computer Assisted Translation Software (CAD 340 600).

Additionally, the Procurement Section began the process of becoming compliant with the requirements of ISO9001:2008, ensuring that the procurement of goods and/or services is effected in the best interests of the Organization and/or assisted States, and that it promotes accountability at all levels of the Organization.



Implementation volume by Strategic Objective
(in millions of USD)

Strategic Objective	The Americas	%	Africa	%	Asia and Pacific	%	Europe and Middle East	%	Total Programme Implementation	%
A. Safety	25.20	62.0	9.89	90.0	7.26	78.0	6.70	75.0	49.05	70.0
B. Security	9.01	22.0	0.84	8.0	0.93	10.0	0.45	5.0	11.23	16.0
C. Env./Sust. Dev	6.76	16.0	0.20	2.0	1.12	12.0	1.79	20.0	9.87	14.0
Total	**40.97**	**100.0**	**10.93**	**100.0**	**9.31**	**100.0**	**8.94**	**100.0**	**70.15**	**100.0**



Total Technical Cooperation Programme implementation*

* Total Programme Implementation includes expenditures, unliquidated obligations as well as procurement of equipment effected by ICAO for which payments are made directly by the governments to suppliers.

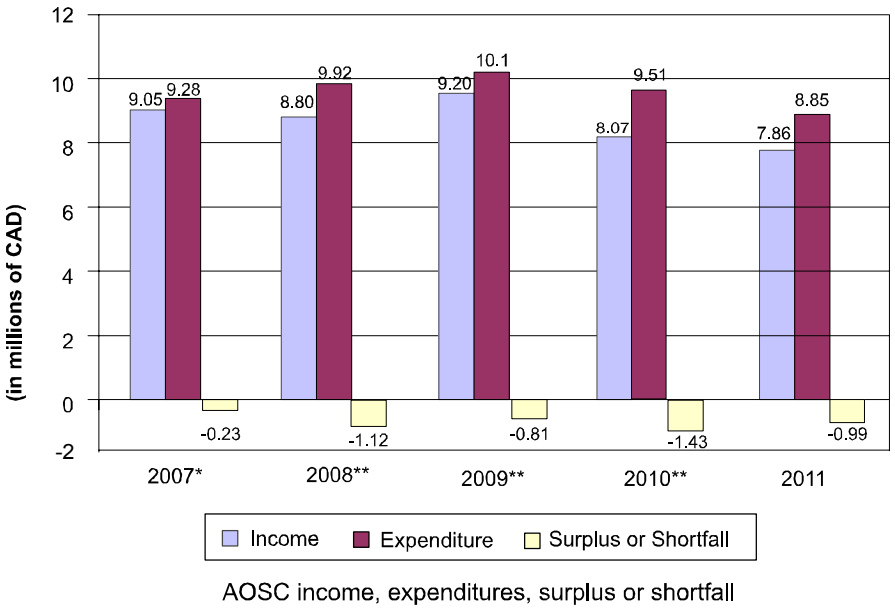
Administrative and Operational Services Cost (AOSC) budget

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 Administrative and Operational Services Cost (AOSC) Fund. The AOSC Fund covers the full cost of the administration, operation and support of the Technical Co-operation Programme, including the Technical Co-operation Bureau'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 2011 was CAD 0.8 million.

Estimated results show a shortfall of CAD 989 000 in 2011. The average overhead rate charged to projects over the past five years increased from 5.2 per cent in 2007 to 7.2 per cent in 2011.



AOSC income, expenditures, surplus or shortfall

* Figures for 2007 were reinstated in Canadian dollars to ensure comparability.
** Figures for 2008, 2009 and 2010 do not include foreign currency revaluation gain/(loss) of CAD 0.9 million, (CAD 1.9 million), and CAD 0.5 million, respectively.

Detailed information on projects implemented in 2011 can be found at www.icao.int/Pages/annual-reports.aspx

FINANCIAL OVERVIEW

FINANCIAL OVERVIEW

Financial highlights — 2011

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 2011 was adjusted to CAD 90 471 000, as a result of:

i) the carry-over of 2010 appropriations to 2011 for a total of CAD 11 451 000 in accordance with Financial Regulation 5.6 and Financial Regulation 5.7;

ii) the return of unused funds back to AOSC Fund and Incentive Scheme for Long-Outstanding Arrears Account in the amount of CAD 279 000;

iii) the transfer between Strategic Objectives or Supporting Implementation Strategies in accordance with Financial Regulation 5.9;

iv) the following adjustments for a total amount of CAD 10 196 000 to decrease 2011 appropriations and to increase 2012 appropriations:

a) the Outstanding Commitments in the amount of CAD 7 786 000 in accordance with Financial Regulation 5.7; and

b) the carry-over of 2011 appropriations to 2012 in the amount of CAD 2 410 000 as per Financial Regulation 5.6.

The actual expenditure for 2011 amounted to CAD 89 416 000. Since 2010, Member States are invoiced partly in USD and partly in CAD. The USD/CAD exchange rate on 1 January 2011 (the date when invoices were raised in USD) was lower than the rate used in developing the 2011 budget causing a reduction to total assessed contributions of CAD 1 055 000. This difference (CAD 1 055 000) has been added to actual expenditures (CAD 89 416 000) in order to restate them to the budget rate of exchange, which amounts to CAD 90 471 000.

Table 2. Revised appropriation for 2011
(in thousands of CAD)

	Appropriations						Expenditures		
Strategic Objective / Supporting Implementation Strategy	Original Assembly Resolution A37-26	Carry-over from prior year	Carry-over surrendered	Transfers among SO/SIS	Adjustments	Revised	Actual	Budget exchange difference	At budget rate of exchange
Strategic Objectives (SO)									
A Safety	22 934	4 409	(114)	403	(3 367)	24 265	23 827	438	24 265
B Security	13 474	621	(71)	(2 410)	(712)	10 902	10 654	248	10 902
C Environmental Protection and Sustainability	11 479	940	(48)	135	(1 256)	11 250	11 066	184	11 250
Subtotal – SO	47 887	5 970	(233)	(1 872)	(5 335)	46 417	45 547	870	46 417
Supporting Implementation Strategies (SIS)									
Programme support	20 135	2 775	–	1 088	(2 231)	21 767	21 697	70	21 767
Management and Administration	14 527	2 170	(46)	1 403	(2 193)	15 861	15 773	88	15 861
Management and Administration — Governing Bodies	6 946	536	–	(619)	(437)	6 426	6 399	27	6 426
Subtotal – SIS	41 608	5 481	(46)	1 872	(4 861)	44 054	43 869	185	44 054
Total	89 495	11 451	(279)	–	(10 196)	90 471	89 416	1 055	90 471

Table 3. Cash balances for 2011
(in thousands of CAD)

	2011			2010		
As at	General Fund CAD	Working Capital Fund CAD	Total CAD	General Fund CAD	Working Capital Fund CAD	Total CAD
1 January	15 618	5 998	21 616	15 140	6 223	21 363
31 March	19 985	5 645	25 630	20 760	6 223	26 983
30 June	8 713	5 710	14 423	19 912	6 199	26 111
30 September	10 570	5 887	16 457	18 671	6 202	24 873
31 December	8 787	6 140	14 927	15 618	5 998	21 616

Tables 4 and 5 below are an extract of the audited Financial Statements of ICAO for the year 2011.

Table 4 shows revenue and expenses for the year 2011 on the IPSAS basis, extracted from Statement II of the Financial Statements. It contains all Funds controlled by ICAO.

Table 4. 2011 Revenue and Expenses Summary (all funds)
(in thousands of CAD)

REVENUE:	
Contributions for project agreements	104 776
Assessed contributions	80 679
Other revenue-producing activities	13 401
Other voluntary contributions	8 339
Other revenue	3 138
Total revenue	**210 333**
EXPENSES:	
Staff salaries and employee benefits	126 016
General operating expenses	16 989
Supplies, consumables and others	63 133
Travel and meetings	9 307
Miscellaneous costs	2 518
Total expenses	**217 963**
Operating surplus/(deficit)	(7 630)

Table 5 presents the Financial Position of the Organization as at 31 December 2011. 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 2011 (all funds)
(in thousands of CAD)

	2011 CAD	2010 CAD
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	193 393	210 915
Assessed contributions receivable from Member States	5 761	6 693
Receivables and advances	11 053	12 579
Inventories	952	987
Others	1 936	2 960
SUB-TOTAL	**213 095**	**234 134**
NON-CURRENT ASSETS		
Assessed contributions receivable from Member States	5 581	3 863
Receivables and advances	496	521
Property, plant and equipment	3 046	699
Intangible assets	958	92
SUB-TOTAL	**10 081**	**5 175**
TOTAL ASSETS	**223 176**	**239 309**
LIABILITIES		
CURRENT LIABILITIES		
Advanced receipts	149 391	163 356
Accounts payable and accrued liabilities	19 354	22 289
Employee benefits	4 060	4 612
Credits to contracting/servicing governments	1 397	1 528
Deferred revenue	168	343
SUB-TOTAL	**174 370**	**192 128**
NON-CURRENT LIABILITIES		
Employee benefits	78 817	76 900
	78 817	**76 900**
TOTAL LIABILITIES	**253 187**	**269 028**
NET ASSETS		
Accumulated deficit	(43 659)	(35 416)
Reserves	13 648	5 697
NET ASSETS (Net accumulated deficit)	**(30 011)**	**(29 719)**
TOTAL LIABILITIES AND NET ASSETS	**223 176**	**239 309**

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

Ancillary Revenue Generation Fund

The Ancillary Revenue Generation Fund continues to develop new revenue generating opportunities and manage its costs, and continued to perform well in 2011. All new products and services in the four years since the inception of ARGF that have been commercially successful, have been due primarily to the efforts and expertise of the RGA sales and marketing team. Some examples include:

1) Dangerous Goods Licensing — revenue in 2007 was USD 425 000; in 2011 it was USD 800 000;
2) TRAINAIR Plus Programme was revitalized and generated revenue of CAD 496 000 in 2011;
3) MRTD activities — in 2007 revenue was USD 200 000; in 2011 revenue attained CAD 886 000;
4) FIATA programme — the FIATA programme with ICAO was officially launched in October 2011 with business contact and partnership initiated by the Marketing Business Development unit; and
5) IFALPA — due to this agreement, sales of the *Emergency Response Guide for Aircraft Incidents Involving Dangerous Goods* (Doc 9481) increased by approximately 200 per cent.

For the year, ARGF generated revenue of CAD 14 681 000, expenses of CAD 9 691 000 and a surplus of CAD 4 990 000 of which CAD 4 556 000 was transferred to the General Fund.

The First Rolling Business Plan

With the goal of providing the Organization with a three-year planning horizon and the ability to mitigate risks and adapt to changes in the world of civil aviation, as of this year, ICAO has adopted a Rolling Business Plan model integrated with an Enterprise Risk Management (ERM) framework.

The Rolling Business Plan is designed to drop the first year's (2011) activities early in the following year (2012) and to add a fourth year (2014).

As a result of the Rolling Business Plan process, emerging issues and trends in each of the Strategic Objectives for the year 2014 have been identified and shared with the Council during its last session in 2011 (C-WP/13772), providing a thematic horizon on which further discussion and planning can be based.

The Rolling Business Plan is a list of programmes and projects that the Secretariat desires to undertake in the aforementioned three-year period, regardless of source or availability of funding. All of these activities are believed to be mission critical and are supported by Assembly/Council decisions.

This approach is the initial step in the process leading to the Business Plan for the triennium 2014-2015-2016 and eventually resulting in the final goal, a viable Regular Budget for the same period.

Enterprise Risk Management

As part of the ERM, it has been agreed that the principles of risk management are to be applied to all programmes within the Business Plan process. Active risk management has been promoted throughout the Organization with the goal of sensitizing chiefs and managers as to its importance in the planning and implementation process for all programmes and projects.

In this context, a standard template and methodology were adopted, and guidelines were developed and shared within the Secretariat to assist the bureaus in carrying out this task. As a result of this process, the bureaus completed their risk registers by identifying and assessing, in terms of the combination of impact and probability, internal and external risks, along with the mitigation actions that need to be implemented to control those risks. The risk registers are available for each Strategic Objective, as well as for core organizational areas namely Finance, Human Resources, Procurement and Information and Communication Technology.

Furthermore, based on the respective bureaus' registers, a corporate risk register including the key high-level risks will be managed and monitored at the executive level.

Evaluations and audits

During 2011, the Evaluation and Internal Audit Office (EAO) completed an evaluation of mission travel and internal audits of translation services and Information Technology (IT) security and availability. In addition, various reports by the Joint Inspection Unit (JIU) were presented to the Council, along with action plans proposed by the Secretariat. Subjects covered included UN system-wide reviews of enterprise risk management, ethics, and the implementation of International Public Sector Accounting Standards (IPSAS).

The Evaluation and Audit Advisory Committee (EAAC) was established in September 2011 comprised of seven independent experts nominated by Member States. The purpose of the EAAC is to review the accounting and financial reporting process, the system of internal control, the risk and audit process, and the process for monitoring compliance with financial rules and regulations and the code of conduct, and to provide its expert advice to the Council.

APPENDIX 1. TABLES RELATING TO THE WORLD OF AIR TRANSPORT IN 2011

General Note.— The statistical data for 2011 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, 2002–2011)

	Passengers		Passenger-km		Freight tonnes		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
Year	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %
2002	1 665	-0.1	3 025 562	0.5	32.8	9.0	126 695	8.2	4 219	-13.9	409 413	2.3
2003[1]	1 719	3.2	3 080 022	1.8	35.0	6.7	132 903	4.9	4 181	-0.9	420 467	2.7
2004	1 918	11.6	3 514 305	14.1	38.4	9.6	146 991	10.6	4 227	1.1	473 446	12.6
2005	2 054	7.1	3 795 450	8.0	39.4	2.5	150 665	2.5	4 299	1.7	503 273	6.3
2006	2 169	5.6	4 032 230	6.2	41.8	6.2	160 617	6.6	4 186	-2.6	534 693	6.2
2007	2 360	8.8	4 363 409	8.2	44.4	6.2	168 335	4.8	4 160	-0.6	570 167	6.6
2008	2 395	1.5	4 450 580	2.0	42.9	-3.2	166 717	-1.0	4 629	11.3	579 579	1.7
2009	2 385	-0.4	4 403 712	-1.1	42.6	-0.8	151 918	-8.9	4 376	-5.5	554 704	-4.3
2010	2 593	8.7	4 753 984	8.0	50.7	19.2	181 958	19.8	4 599	5.1	619 846	11.7
2011	2 738	5.6	5 061 711	6.5	51.4	1.4	181 814	-0.1	4 586	-0.3	646 752	4.3

1. On 1 October 2002, the United States Department of Transportation implemented new air traffic data reporting rules which, inter alia, have affected the reporting of domestic all-cargo operations. Consequently, compared with 2002, the reported data for the United States for 2003 shows a significant shift of domestic freight traffic from non-scheduled operations to scheduled services with a corresponding impact on the world traffic shown above. It is estimated that if the traffic for United States carriers had been reported under the old rules, the increases for freight tonnes carried (6.7 per cent), freight tonne-kilometres (4.9 per cent) and total tonne-kilometres performed (2.7 per cent) would have been reduced to 2.4, 2.7 and 1.6 per cent, respectively.

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, 2002–2011)

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 %
2002	558	2.1	1 788 373	0.5	19.9	4.4	107 959	5.9	2 422	1.9	276 702	2.4
2003	572	2.6	1 790 162	0.1	20.7	4.3	109 579	1.5	2 422	0.0	278 086	0.5
2004	660	15.3	2 074 797	15.9	23.0	11.2	122 290	11.6	2 529	4.4	315 906	13.6
2005	719	9.0	2 265 679	9.2	23.9	3.7	125 836	2.9	2 663	5.3	337 071	6.7
2006	786	9.3	2 448 438	8.1	25.4	6.4	134 324	6.7	2 726	2.4	362 415	7.5
2007	868	10.5	2 660 158	8.6	27.0	6.3	141 065	5.0	2 861	4.9	386 422	6.6
2008	902	3.9	2 742 593	3.1	26.8	-0.9	139 885	-0.8	3 038	6.2	393 087	1.7
2009	914	1.3	2 707 610	-1.3	26.1	-2.3	127 573	-8.8	3 021	-0.6	377 760	-3.9
2010	1 011	10.6	2 937 898	8.5	33.8	29.2	155 367	21.8	3 213	6.4	428 797	13.5
2011	1 081	6.9	3 147 595	7.1	34.2	1.3	155 451	0.1	3 124	-2.8	446 866	4.2

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, 2002–2011)

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 (%)
2002	3 025 562	4 246 505	71	126 695	4 219	409 413	686 002	60
2003	3 080 022	4 308 413	71	132 903	4 181	420 467	706 220	60
2004	3 514 305	4 794 368	73	146 991	4 227	473 446	774 686	61
2005	3 795 450	5 070 715	75	150 665	4 299	503 273	818 529	61
2006	4 032 230	5 325 071	76	160 617	4 186	534 693	857 836	62
2007	4 363 409	5 688 183	77	168 335	4 160	570 167	914 429	62
2008	4 450 580	5 868 819	76	166 717	4 629	579 579	938 970	62
2009	4 403 712	5 749 932	77	151 918	4 376	554 704	899 879	62
2010	4 753 984	6 109 442	78	181 958	4 599	619 846	949 728	65
2011	5 061 711	6 516 040	78	181 814	4 586	646 752	1 000 110	65

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

Table 4. Regional distribution of scheduled traffic — 2011

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 Freight (millions)	Tonne-kilometres performed Total (millions)	Tonne-kilometres available (millions)	Weight load factor (%)
Total (international and domestic) services of airlines of ICAO Member States									
Europe	9 687	7 606	751 718	1 384 713	78	40 227	166 698	245 201	68
Percentage of world traffic	25.1	25.3	27.5	27.4		22.1	25.8	24.5	
Africa	1 154	848	61 491	117 735	67	2 651	13 994	24 828	56
Percentage of world traffic	3.0	2.8	2.2	2.3		1.5	2.2	2.5	
Middle East	2 124	947	125 317	383 131	76	17 385	53 818	87 592	61
Percentage of world traffic	5.5	3.2	4.6	7.6		9.6	8.3	8.8	
Asia and Pacific	9 903	7 048	816 901	1 496 147	76	74 785	210 363	316 616	66
Percentage of world traffic	25.7	23.5	29.8	29.6		41.1	32.5	31.7	
North America	13 328	11 301	800 268	1 434 220	82	41 663	174 152	282 149	62
Percentage of world traffic	34.6	37.6	29.2	28.3		22.9	26.9	28.2	
Latin America and Caribbean	2 333	2 303	182 434	245 765	73	5 103	27 726	43 722	63
Percentage of world traffic	6.1	7.7	6.7	4.9		2.8	4.3	4.4	
Total	38 530	30 053	2 738 129	5 061 711	78	181 814	646 752	1 000 110	65
International services of airlines of ICAO Member States									
Europe	8 048	4 987	549 523	1 228 340	79	39 433	151 247	221 000	68
Percentage of world traffic	39.8	53.0	50.8	39.0		25.4	33.8	32.0	
Africa	936	460	38 789	102 543	67	2 579	12 560	22 564	56
Percentage of world traffic	4.6	4.9	3.6	3.3		1.7	2.8	3.3	
Middle East	1 958	700	99 224	363 658	76	17 301	51 995	84 697	61
Percentage of world traffic	9.7	7.4	9.2	11.6		11.1	11.6	12.3	
Asia and Pacific	4 982	1 656	238 669	856 866	75	65 954	145 288	219 635	66
Percentage of world traffic	24.6	17.6	22.1	27.2		42.4	32.5	31.8	
North America	3 319	1 123	114 470	478 579	81	25 655	70 176	117 984	59
Percentage of world traffic	16.4	11.9	10.6	15.2		16.5	15.7	17.1	
Latin America and Caribbean	992	487	40 775	117 609	75	4 529	15 600	23 817	66
Percentage of world traffic	4.9	5.2	3.8	3.7		2.9	3.5	3.5	
Total	20 234	9 413	1 081 450	3 147 595	77	155 451	446 866	689 697	65

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 2011[1])

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 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)
United States	1	159 951	157 221	2	1	61 381	59 822	3	1	1 310 556	1 284 300	2	1	403 468	394 593	2
China [2]	2	57 416	53 302	8	6	19 444	18 871	3	2	451 162	400 609	13	9	85 758	73 488	17
Hong Kong SAR [3]		20 079	19 586	3		20 079	19 586	3		105 736	98 758	7		105 736	98 758	7
Macao SAR [4]		268	246	9		268	246	9		2 289	2 106	9		2 289	2 106	9
United Arab Emirates	3	30 418	28 836	5	2	30 418	28 836	5	5	206 384	190 156	9	4	206 384	190 156	9
Germany	4	30 211	27 831	9	3	29 199	26 822	9	4	222 977	201 567	11	3	212 813	191 435	11
United Kingdom	5	24 784	23 343	6	4	24 145	22 746	6	3	243 003	226 419	7	2	234 840	218 714	7
Republic of Korea	6	20 807	21 031	-1	5	20 317	20 554	-1	15	93 858	87 457	7	8	89 089	82 651	8
France	7	18 308	17 780	3	7	17 379	16 806	3	6	145 340	137 283	6	5	134 280	126 786	6
Japan	8	16 935	20 391	-17	10	11 948	14 450	-17	9	121 754	137 927	-12	13	64 369	72 060	-11
Russian Federation	9	15 429	13 474	15	13	8 934	7 614	17	7	126 837	109 435	16	14	63 452	52 616	21
Singapore	10	15 252	14 562	5	8	15 252	14 562	5	12	108 048	98 966	9	7	108 048	98 966	9
Canada	11	14 201	13 417	6	14	8 795	8 086	9	8	123 664	115 793	7	11	75 110	68	10
Australia	12	12 357	12 095	2	17	8 009	7 840	2	14	103 345	99 859	3	17	58 918	56 264	5
Netherlands	13	12 019	11 408	5	9	12 019	11 408	5	17	82 047	76 066	8	10	82 047	76 066	8
India	14	11 815	10 959	8	20	6 316	6 244	1	11	108 922	99 269	10	20	50 472	49 885	1
Spain	15	10 410	9 561	9	16	8 356	7 666	9	16	90 435	86 931	4	12	71 512	66 710	7
Brazil	16	10 359	8 629	20	26	2 962	2 284	30	13	105 641	90 474	17	24	25 728	22 763	13
Ireland	17	10 020	8 955	12	11	10 016	8 948	12	10	109 824	97 834	12	6	109 789	97 779	12
Thailand	18	9 768	9 534	2	15	8 648	8 650	0	21	65 783	64 556	2	18	57 950	57 743	0
Qatar	19	9 232	7 723	20	12	9 232	7 723	20	22	61 600	52 733	17	15	61 600	52 733	17
Indonesia	20	9 147	7 813	17	27	2 955	2 331	27	19	77 224	64 781	19	29	20 485	16 117	27
Turkey	21	8 917	7 720	16	19	7 180	6 248	15	18	78 939	65 202	21	16	61 076	50 043	22
Malaysia	22	8 584	8 365	3	18	7 263	7 224	1	20	67 773	61 287	11	19	54 170	49 551	9
Switzerland	23	5 473	5 531	-1	21	5 459	5 515	-1	25	42 602	42 547	0	21	42 461	42 391	0
Luxembourg	24	5 103	4 949	3	22	5 103	4 949	3	109	565	529	7	104	565	529	7
Scandinavia [5]	25	4 746	4 542	4	23	4 096	3 940	4	23	46 654	42 092	11	22	39 883	35 937	11
Saudi Arabia	26	4 738	4 102	16	24	3 740	3 224	16	27	35 793	30 758	16	26	25 563	21 842	17
Italy	27	4 759	4 520	5	25	3 490	3 291	6	24	43 539	41 649	5	23	30 585	29 104	5
Mexico	28	3 842	3 829	0	38	1 721	2 060	-16	26	36 706	37 781	-3	36	15 225	18 283	-17
South Africa	29	3 654	3 739	-2	28	2 813	2 902	-3	29	29 190	29 477	-1	28	20 690	21 198	-2
Chile	30	3 393	3 139	8	31	2 660	2 494	7	33	21 749	19 196	13	40	14 184	12 624	12
Philippines	31	3 360	3 231	4	34	2 399	2 391	0	28	30 714	29 425	4	27	21 181	20 611	3
Colombia	32	3 273	3 048	7	29	2 700	2 533	7	41	15 794	14 580	8	46	10 289	9 553	8
Portugal	33	2 871	2 714	6	30	2 667	2 496	7	30	27 653	25 793	7	25	25 580	23 610	8
Viet Nam	34	2 779	2 356	18	39	1 705	1 443	18	31	24 791	21 241	17	38	15 055	12 755	18
New Zealand	35	2 764	2 616	6	35	2 386	2 260	6	32	22 983	21 852	5	32	18 809	17 991	5
Finland	36	2 635	2 352	12	33	2 525	2 252	12	34	20 435	17 786	15	31	19 259	16 708	15
Israel	37	2 555	2 687	-5	32	2 555	2 653	-4	36	18 232	18 178	0	33	17 790	17 809	0
Austria	38	2 059	2 139	-4	36	2 042	2 118	-4	35	19 745	17 569	12	30	19 583	17 363	13
Ethiopia	39	2 056	1 745	18	37	2 041	1 726	18	45	13 293	10 875	22	42	13 137	10 681	23
Pakistan	40	1 940	1 858	4	41	1 681	1 619	4	38	17 711	16 857	5	37	15 155	14 527	4
Argentina	41	1 879	1 836	2	49	1 177	1 099	7	37	17 769	17 479	2	45	10 437	9 726	7
Egypt	42	1 761	2 411	-27	40	1 693	2 298	-26	43	15 208	20 054	-24	39	14 521	18 872	-23
Morocco	43	1 654	1 411	17	42	1 624	1 378	18	40	16 808	14 366	17	35	16 507	14 040	18
Hungary	44	1 562	1 377	13	43	1 562	1 377	13	39	17 021	14 984	14	34	17 021	14 984	14
Belgium	45	1 518	1 742	-13	44	1 518	1 742	-13	54	7 777	7 454	4	52	7 777	7 454	4
Bahrain	46	1 497	1 590	-6	45	1 497	1 590	-6	46	11 960	12 691	-6	43	11 960	12 691	-6
Iran (Islamic Republic of)	47	1 484	1 540	-4	56	698	698	0	42	15 305	16 291	-6	54	6 946	7 221	-4
Panama	48	1 442	1 204	20	46	1 442	1 204	20	44	13 889	11 574	20	41	13 889	11 574	20
Sri Lanka	49	1 330	1 184	12	47	1 330	1 184	12	47	10 749	9 371	15	44	10 749	9 371	15
Kenya	50	1 294	1 206	7	48	1 266	1 156	10	49	10 003	9 110	10	47	9 514	8 687	10
Peru	51	1 127	992	14	54	872	762	14	48	10 054	8 458	19	53	7 376	6 056	22
Kuwait	52	1 121	1 176	-5	50	1 121	1 176	-5	51	9 026	9 613	-6	49	9 026	9 613	-6
Jordan	53	997	908	10	51	996	907	10	52	8 570	7 805	10	50	8 556	7 789	10
Ukraine	54	992	703	41	52	936	656	43	50	9 981	6 940	44	48	9 367	6 426	46
Oman	55	927	736	26	53	895	705	27	53	8 378	6 960	20	51	8 000	6 624	21

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 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)
Mauritius	56	788	762	3	55	782	756	3	57	6 605	6 320	5	55	6 536	6 257	4
Greece	57	702	743	-6	63	543	568	-5	55	7 251	7 693	-6	59	5 565	5 878	-5
Uzbekistan	58	700	657	7	57	670	627	7	59	6 055	5 567	9	58	5 733	5 249	9
Poland	59	681	683	0	58	656	661	-1	56	6 613	6 576	1	56	6 303	6 307	0
Kazakhstan	60	633	573	11	68	395	346	14	58	6 512	5 754	13	67	3 868	3 407	14
Ecuador	61	624	615	2	64	499	475	5	61	5 487	5 421	1	65	4 175	3 959	5
Brunei Darussalam	62	592	587	1	59	592	587	1	65	4 492	4 853	-7	62	4 492	4 853	-7
Bangladesh	63	589	568	4	61	565	560	1	62	5 195	4 931	5	60	5 101	4 888	4
Iceland	64	566	485	17	60	566	485	17	63	4 970	4 112	21	61	4 970	4 112	21
Czech Republic	65	556	561	-1	62	556	559	-1	60	5 950	5 998	-1	57	5 942	5 978	-1
Lebanon	66	447	430	4	65	447	430	4	69	3 800	3 619	5	68	3 800	3 619	5
Romania	67	435	420	4	67	412	400	3	64	4 520	4 423	2	64	4 270	4 202	2
Trinidad and Tobago	68	419	288	45	66	414	284	46	66	4 463	3 009	48	63	4 406	2 958	49
Algeria	69	392	375	5	73	332	315	5	67	4 195	3 994	5	71	3 532	3 338	6
Libya	70	391	493	-21	71	359	454	-21	74	3 084	4 035	-24	73	2 762	3 631	-24
Tunisia	71	383	358	7	69	377	352	7	70	3 749	3 528	6	69	3 684	3 458	7
El Salvador	72	366	311	18	70	366	310	18	68	3 870	3 307	17	66	3 870	3 303	17
Fiji	73	358	353	1	72	351	345	2	72	3 575	3 455	3	72	3 517	3 392	4
Afghanistan	74	349	350	0	76	289	300	-4	77	2 623	2 646	-1	77	2 163	2 250	-4
Angola	75	330	291	13	75	294	258	14	73	3 135	2 706	16	74	2 746	2 341	17
Latvia	76	330	327	1	74	330	327	1	71	3 598	3 564	1	70	3 598	3 564	1
Tajikistan	77	232	172	35	79	225	165	36	78	2 466	1 818	36	76	2 394	1 748	37
Venezuela (Bolvarian Republic of)	78	252	253	-1	90	110	100	10	75	2 745	2 765	-1	88	1 174	1 069	10
Costa Rica	79	246	230	7	77	245	228	7	76	2 733	2 569	6	75	2 718	2 555	6
Cyprus	80	226	310	-27	78	226	310	-27	81	2 086	3 013	-31	79	2 086	3 013	-31
Papua New Guinea	81	215	178	21	88	138	104	32	89	1 519	1 273	19	95	813	635	28
Syrian Arab Republic	82	196	180	9	82	191	176	9	85	1 793	1 634	10	82	1 749	1 602	9
Malta	83	193	212	-9	80	193	212	-9	82	2 041	2 257	-10	80	2 041	2 257	-10
Yemen	84	192	203	-6	81	192	203	-5	80	2 130	2 255	-6	78	2 125	2 249	-5
Azerbaijan	85	191	136	40	84	169	135	25	83	2 013	1 428	41	81	1 780	1 416	26
Bolivia (Plurinational State of)	86	183	156	17	89	134	106	26	84	1 796	1 554	16	87	1 311	1 050	25
Seychelles	87	183	200	-9	83	183	199	-8	90	1 444	1 556	-7	86	1 437	1 549	-7
Nigeria	88	175	148	18	111	40	37	6	79	2 204	1 808	22	108	506	478	6
Cuba	89	165	150	10	85	158	142	11	86	1 729	1 494	16	83	1 658	1 420	17
Namibia	90	146	140	5	86	143	138	4	88	1 552	1 498	4	85	1 515	1 473	3
Albania	91	140	110	28	87	140	110	28	87	1 553	1 202	29	84	1 553	1 202	29
Madagascar	92	118	135	-13	94	104	122	-15	94	1 095	1 240	-12	93	937	1 099	-15
Bulgaria	93	115	103	12	92	108	99	10	91	1 239	1 109	12	90	1 170	1 065	10
Croatia	94	113	98	16	95	98	85	16	92	1 230	1 060	16	91	1 070	921	16
Belarus	95	109	91	20	91	109	91	20	95	1 068	885	21	92	1 068	885	21
Serbia	96	108	93	16	93	108	93	16	93	1 173	1 004	17	89	1 173	1 004	17
Total for above Countries (98)[6]		633 397	606 420	4		433 738	415 619	4		4 999 142	4 690 035	7		3 087 330	2 876 425	7
Total for other Countries		13 355	13 426			13 129	13 178			62 569	63 949			60 265	61 473	
Total for 191 ICAO Member States		646 752	619 846	4		446 866	428 797	4		5 061 711	4 753 984	6		3 147 595	2 937 898	7

1. Most 2011 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 2011[1])

Country or group of countries	FREIGHT TONNE-KILOMETRES PERFORMED (millions)							
	Total operations (international and domestic)				International operations			
	Rank number in 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)
United States	1	39 629	39 353	1	1	24 111	23 413	3
China [2]	2	16 765	17 194	-2	3	11 628	12 170	-4
Hong Kong SAR[3]		10 562	10 697	-1		10 562	10 697	-1
Macao SAR[4]		41	37	11		41	37	11
Republic of Korea	3	12 219	12 945	-6	2	12 162	12 873	-6
United Arab Emirates	4	10 147	10 000	1	4	10 147	10 000	1
Germany	5	7 712	7 497	3	5	7 705	7 487	3
Japan	6	6 349	8 307	-24	7	5 709	7 366	-22
United Kingdom	7	6 289	6 082	3	6	6 288	6 080	3
Singapore	8	5 696	5 802	-2	8	5 696	5 802	-2
Luxembourg	9	5 052	4 902	3	9	5 052	4 902	3
France	10	5 017	5 114	-2	10	5 012	5 105	-2
Russian Federation	11	3 900	3 532	10	14	3 206	2 863	12
Thailand	12	3 730	3 616	3	13	3 316	3 345	-1
Netherlands	13	3 699	3 698	0	11	3 699	3 698	0
Qatar	14	3 637	2 946	23	12	3 637	2 946	23
Indonesia	15	2 433	1 978	23	25	1 069	770	39
Malaysia	16	2 411	2 774	-13	15	2 314	2 686	-14
Australia	17	2 322	2 398	-3	16	2 137	2 229	-4
India	18	2 039	2 071	-2	21	1 542	1 543	0
Canada	19	2 034	2 011	1	20	1 544	1 503	3
Spain	20	1 690	1 615	5	17	1 651	1 573	5
Turkey	21	1 654	1 209	37	18	1 637	1 191	37
Colombia	22	1 599	1 487	8	19	1 572	1 462	8
Saudi Arabia	23	1 501	1 325	13	22	1 431	1 251	14
Chile	24	1 422	1 400	2	23	1 372	1 348	2
Switzerland	25	1 351	1 282	5	24	1 351	1 282	5
South Africa	26	1 091	1 065	2	26	1 032	1 007	3
Brazil	27	1 029	933	10	30	661	587	13
Belgium	28	812	1 067	-24	27	812	1 067	-24
Finland	29	802	729	10	28	802	729	10
Israel	30	799	856	-7	29	799	856	-7
Italy	31	536	472	14	31	530	466	14
Viet Nam	32	529	427	24	39	347	292	19
Scandinavia [5]	33	496	477	4	32	490	471	4
Bahrain	34	469	504	-7	33	469	504	-7
New Zealand	35	469	469	0	34	461	461	0
Philippines	36	460	457	1	43	285	323	-12
Ethiopia	37	440	393	12	35	439	392	12
Austria	38	383	358	7	36	383	358	7
Portugal	39	360	369	-2	38	349	355	-2
Sri Lanka	40	355	331	7	37	355	331	7

Country or group of countries	FREIGHT TONNE-KILOMETRES PERFORMED (millions)							
	Total operations (international and domestic)				International operations			
	Rank number in 2011	2011	2010	Increase or decrease (%)	Rank number in 2011	2011	2010	Increase or decrease (%)
Pakistan	41	338	333	1	42	309	305	2
Kenya	42	326	298	9	41	318	288	10
Egypt	43	326	413	-21	40	326	411	-21
Mexico	44	317	321	-1	45	242	268	-10
Kuwait	45	278	274	1	44	278	274	1
Argentina	46	237	222	7	47	219	204	7
Jordan	47	222	202	10	46	222	202	10
Peru	48	205	216	-5	48	192	203	-5
Brunei Darussalam	49	186	149	25	49	186	149	25
Mauritius	50	178	179	-1	50	178	179	-1
Oman	51	172	107	61	51	171	105	62
Uzbekistan	52	154	154	0	52	154	153	0
Ecuador	53	133	130	2	53	124	119	4
Bangladesh	54	120	124	-3	55	105	119	-12
Ireland	55	115	138	-17	54	113	137	-17
Iran (Islamic Republic of)	56	109	95	16	56	98	82	19
Afghanistan	57	108	108	0	57	91	94	-3
Libya	58	87	95	-9	58	85	93	-9
Iceland	59	82	79	4	59	82	79	4
Ukraine	60	81	69	17	60	81	69	17
Poland	61	77	76	0	61	76	76	0
Fiji	62	73	77	-5	62	71	75	-6
Panama	63	52	45	15	63	52	45	15
Bhutan	64	51	44	15	64	51	44	15
Angola	65	48	48	0	66	47	47	0
Lebanon	66	48	48	-1	65	48	48	-1
Kazakhstan	67	45	42	6	68	43	32	33
Togo	68	44	43	3	67	44	43	3
Papua New Guinea	69	37	31	20	71	31	22	45
Cyprus	70	36	36	0	69	36	36	0
Seychelles	71	32	36	-13	70	32	36	-13
Total for the above countries (73)[6]		174 242	174 410	0		147 903	147 861	0
Total for other countries		7 572	7 548			7 547	7 506	
Total for 191 ICAO Member States		181 814	181 958	0		155 451	155 367	0

1. Data are based on ICAO Form A reports, and also on ICAO 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, 2002–2011

Category	Millions of passenger-kilometres performed									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Non-scheduled traffic[1]	244 930	240 720	266 590	262 560	245 105	241 730	223 360	197 690	210 475	225 208
Annual change (%)	-10.2	-1.7	10.7	-1.5	-6.6	-1.4	-7.6	-11.5	6.5	7.0
Scheduled traffic	1 788 373	1 790 162	2 074 797	2 265 679	2 448 438	2 660 158	2 742 593	2 707 610	2 937 898	3 147 595
Annual change (%)	0.5	0.1	15.9	9.2	8.1	8.6	3.1	-1.3	8.5	7.1
Total traffic	2 033 303	2 030 882	2 341 387	2 528 239	2 693 543	2 901 888	2 965 953	2 905 300	3 148 373	3 372 803
Annual change (%)	-0.9	-0.1	15.3	7.9	6.4	7.6	3.1	-2.1	8.4	7.1
Non-scheduled traffic as percentage of total	12.0	11.9	11.4	10.4	9.1	8.3	7.5	6.8	6.7	6.7

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, 2011

Rank No.	City	Airport	Passengers embarked and disembarked[1] 2011 (thousands)	2010 (thousands)	2011/2010 (%)	Aircraft movements[2] 2011 (thousands)	2010 (thousands)	2011/2010 (%)
1	Atlanta GA	Hartsfield-Jackson Atlanta International	92 389	89 238	3.5	924	950	-2.7
2	Beijing	Beijing Capital International	78 675	73 948	6.4	533	518	2.9
3	London	Heathrow	69 433	65 882	5.4	476	455	4.6
4	Chicago IL	O'Hare International	66 793	67 027	-0.3	879	883	-0.5
5	Tokyo	Haneda (Tokyo International)	62 583	64 069	-2.3	379	342	10.8
6	Los Angeles CA	Los Angeles International	61 862	59 070	4.7	604	576	4.9
7	Paris	Charles de Gaulle	60 879	58 165	4.7	513	492	4.3
8	Dallas/Fort Worth TX	Dallas-Fort Worth International	57 806	56 905	1.6	647	651	-0.6
9	Frankfurt	Frankfurt	56 436	52 945	6.6	487	456	6.8
10	Hong Kong	Hong Kong International	52 984	50 349	5.2	329	316	4.1
11	Denver CO	Denver International	52 849	51 985	1.7	635	635	0.0
12	Dubai	Dubai International	50 800	47 181	7.7	326	307	6.2
13	Amsterdam	Schiphol Amsterdam	49 755	45 212	10.0	437	402	8.7
14	Madrid	Barajas	49 542	49 764	-0.4	423	428	-1.2
15	Jakarta	Jakarta Soekarno-Hatta Intrernational	47 647	43 981	8.3	345	309	11.7
16	New York NY	John F. Kennedy International	47 640	46 487	2.5	401	397	1.0
17	Bangkok	Bangkok Suvarnabhumi International	47 801	42 785	11.7	289	270	7.0
18	Singapore	Changi	45 429	42 039	8.1	302	268	12.7
19	Guangzhou	Guangzhou Baiyun International	45 040	40 976	9.9	349	329	6.1
20	Shanghai	Shanghai Pudong International	41 448	40 579	2.1	344	332	3.6
21	San Francisco CA	San Francisco International	41 045	39 391	4.2	404	387	4.4
22	Phoenix AZ	Sky Harbor International	40 566	38 552	5.2	439	449	-2.2
23	Houston TX	George Bush International	40 187	40 480	-0.7	529	531	-0.4
24	Las Vegas NV	McCarran International Las Vegas	40 064	39 757	0.8	532	506	5.1
25	Charlotte NC	Charlotte Douglas International	39 044	38 254	2.1	540	529	2.1
		Total	**1 338 697**	**1 285 021**	**4.2**	**12 066**	**11 718**	**3.0**

Top 25 airports ranked by international passengers, 2011

Rank No.	City	Airport	Passengers embarked and disembarked[1] 2011 (thousands)	2010 (thousands)	2011/2010 (%)	Aircraft movements[2] 2011 (thousands)	2010 (thousands)	2011/2010 (%)
1	London	Heathrow	64 687	61 041	6.0	430	402	7.0
2	Paris	Charles de Gaulle	55 675	53 150	4.7	451	438	3.0
3	Hong Kong	Hong Kong International	52 753	49 775	6.0	329	307	7.2
4	Dubai	Dubai International	50 192	46 314	8.4	326	307	6.2
5	Amsterdam	Schiphol Amsterdam	49 681	45 137	10.1	437	402	8.7
6	Frankfurt	Frankfurt	49 477	46 307	6.8	406	389	4.4
7	Singapore	Changi	45 429	42 039	8.1	302	264	14.4
8	Bangkok	Bangkok Suvarnabhumi International	37 386	32 381	15.5	213	189	12.7
9	Seoul	Incheon International	34 538	32 950	4.8	225	210	7.1
10	Madrid	Barajas	32 528	31 051	4.8	255	245	4.1
11	London	Gatwick	29 918	27 870	7.3	199	186	7.0
12	Munich	Franz Josef Strauss	27 879	25 319	10.1	290	274	5.8
13	Tokyo	Narita	26 344	32 216	-18.2	162	191	-15.2
14	Kuala Lumpur	Kuala Lumpur International	25 916	23 402	10.7	173	158	9.5
15	Rome	Fiumicino	24 450	23 281	5.0	197	190	3.7
16	Istanbul	Istanbul Ataturk International.	23 973	20 343	17.8	198	179	10.6
17	New York NY	John F. Kennedy International	23 877	23 103	3.4	149	145	2.8
18	Zurich	Zurich	23 733	22 330	6.3	243	232	4.7
19	Taipei	Taiwan Taoyuan International	23 137	23 129	0.0	163	156	4.5
20	Barcelona	El Prat	21 702	17 559	23.6	181	157	15.3
21	Antalya	Antalya International	20 511	18 319	12.0	122	112	8.9
22	Vienna	Vienna International	20 399	18 882	8.0	230	228	0.9
23	Toronto	Toronto Pearson International	20 357	19 205	6.0	221	221	0.0
24	Copenhagen	Copenhagen	20 232	18 964	6.7	214	199	7.5
25	Dublin	Dublin	18 591	18 045	3.0	147	141	4.3
		Total	**823 364**	**772 113**	**6.6**	**6 263**	**5 922**	**5.8**

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 and airport websites.

Table 9. Operating and net results[1]
(scheduled airlines of ICAO Member States)

Year	Operating revenues USD (millions)	Operating expenses USD (millions)	Operating result		Net result[2]		Income taxes USD (millions)
			Amount USD (millions)	Percentage of operating revenues	Amount USD (millions)	Percentage of operating revenues	
2002	306 000	310 800	-4 800	-1.6	-11 300	-3.7	2 300
2003	321 800	323 300	-1 500	-0.5	-7 500	-2.3	-1 460
2004	378 800	375 500	3 300	0.9	-5 600	-1.5	-2 560
2005	413 300	408 900	4 400	1.1	-4 100	-1.0	-2 800
2006	465 200	450 200	15 000	3.2	5 000	1.1	-3 380
2007	509 800	489 900	19 900	3.9	14 700	2.9	-5 370
2008	569 500	570 600	-1 100	-0.2	-26 100	-4.6	2 240
2009	475 800	473 900	1 900	0.4	-4 600	-1.0	-1 580
2010[3]	579 300	550 400	28 900	5.0	19 200	3.3	-2 920
2011[3,4]	635 600	621 500	14 100	2.2	8 400	1.3	-1 760

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 2010 and 2011 have been provisionally estimated and exclude exceptional accounting items.
4. Complete financial data for 2011 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[1] of ICAO Member States at the end of each year, 2002–2011

Year	Turbojet		Turboprop		Piston-engined		Total aircraft all types
	Number	Percentage	Number	Percentage	Number	Percentage	
2002	16 249	80.7	3 757	18.7	117	0.6	20 123
2003	16 628	81.7	3 620	17.8	105	0.5	20 353
2004	17 347	82.7	3 548	16.9	84	0.4	20 979
2005	17 845	83.4	3 466	16.2	76	0.4	21 387
2006	18 457	83.8	3 501	15.9	70	0.3	22 028
2007	19 366	84.4	3 524	15.4	65	0.3	22 955
2008	19 211	84.5	3 462	15.2	53	0.2	22 726
2009	19 471	84.8	3 425	14.9	56	0.2	22 952
2010	20 092	85.2	3 440	14.6	54	0.2	23 586
2011	21 001	85.5	3 516	14.3	51	0.2	24 568

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

Source.— OAG Aviation Solutions.

Table 11. Aviation security

Year	Number of acts of unlawful interference	Number of acts of unlawful seizure: Actual seizures	Number of acts of unlawful seizure: Attempted seizures	Number of acts of facility attack: Actual facility attacks	Number of acts of facility attack: Attempted facility attacks	Number of acts of sabotage	Other acts[1]	Number of persons injured or killed during acts of unlawful interference: Injured	Number of persons injured or killed during acts of unlawful interference: 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[2]	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[3]	27	2
2007	22	4	2	2	3	0	11	33	18
2008	23	1	6	3	0	0	13[3]	31	11
2009	23	5	3	1	0	0	14[3]	4	3
2010	14	0	1	1	0	1	11[3]	13	6
2011	6	0	2	0	0	1	3[3]	152	35

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

COUNTRY/REGION LISTINGS

AFGHANISTAN

Implementation of Kabul International Airport Transition Plan

Project goal

The objective of this project, funded by the Government of Afghanistan, was to enhance the capability of the Ministry of Transport and Civil Aviation (MoTCA) to take over responsibility for the management, operation and maintenance of those facilities and services at Kabul International Airport that will be transferred from the North Atlantic Treaty Organization (NATO)/International Security Assistance Force (ISAF) to MoTCA at the end of the transitional period covered by the project. This project, which began in December 2007, was extended through March 2011 and is now completed.

Project achievements

Technical assistance was provided in the fields of aeronautical information services; communications, navigation and surveillance; aerodrome operations; information technology; engineering; meteorology; fire fighting and rescue; air traffic control; and English language proficiency.

Flight Safety Oversight

Project goal

The objective of this project, funded by the Government of Afghanistan, was to enhance the flight safety oversight capability of the Ministry of Transport and Civil Aviation (MoTCA). This project, which began in September 2008, was extended through February 2011 and is now completed.

Project achievements

The project continued to assist MoTCA to conduct flight operations surveillance and inspection activities, including airline operators and maintenance organizations.

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 provision of airport and air navigation services and safety oversight services, including the transfer of all missions and duties performed by the "Comando de Regiones Aéreas da la Fuerza Aérea Argentina." The project, which began in September 2007, was extended through January 2014.

Project achievements

New area control centre systems were implemented and the procurement of 14 fire fighting vehicles initiated. Project personnel participated in a number of advanced training courses related to Safety Management Systems implementation. The civil aviation legal framework was updated. A multidisciplinary inter-organization working group was created to develop an action plan for needs assessment in various areas of civil aviation. A Memorandum of Understanding was signed for cooperation and coordination between national/state organizations. The requirements for a state safety programme law were identified and a related bill drafted.

Constitution of 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 will be 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 will also support 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

Five professionals and five administrative staff were recruited and the training of two professional staff completed.

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 search and rescue services to the new National Civil Aviation Administration (ANAC). The project comprises contracting of national professionals, acquisition of equipment, maintenance of services and training. This project began in July 2009 with an expected duration of three years.

Project achievements

An update was undertaken of the flight inspection system incorporating Area Navigation and Global Navigation Satellite Systems capabilities. In addition to spare parts, accessories and maintenance services, a flight simulator, communication systems, computers, weather stations, emergency locator beacons, mobile airfield systems and a high resolution digital aerial-photogrammetric system were procured. Certification of the aerodrome flight information service was carried out and a contract for the maintenance of flight inspection aircraft awarded. Repairs and modifications on existing aircraft continued. Expert support for the evaluation of fire fighting equipment was provided.

BAHAMAS

Assistance to the Bahamas Department of Civil Aviation in Safety Management

Project goal

The objective of this project, funded by the Government of the Bahamas, was to assist the Bahamas Civil Aviation Department (BCAD) in the development of its State Safety Programme (SSP). The project, which began in June 2011, was completed in September 2011.

Project achievements

The project allowed BCAD to apply safety management principles such as safety risk management and safety assurance to carry out its aviation safety responsibilities; to interact more effectively with service providers in the resolution of safety concerns; and to apply safety management principles across the different civil aviation entities within the State.

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, does not have an expiry date.

Project achievements

A radar expert was sent to the Bahamas for five days in order to gather technical information for the procurement of a new radar and refurbishing of an existing radar for the Bahamas. The technical specifications were prepared and sent to BCAD for their viewing and approval.

BARBADOS

Assistance to the Civil Aviation Authority

Project goal

The objective of this project, funded by the Barbados Civil Aviation (BCA), was to send a civil aviation authority organization and management expert to conduct organizational reviews and make recommendations on organizational planning and design. This project, which began in April 2011, was completed in June 2011.

Project achievements

Recommendations on organizational planning and design were submitted to the BCA.

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, is 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 began in December 2009 with an expected duration of 38 months.

Project achievements

The recruitment and administration of 122 professionals and 72 administrative national support staff, as well as the training of about 200 nationals in different aviation disciplines were carried out through the project. Safety-related assistance provided to the DGCA through a team of ICAO experts resulted in the maintenance of Federal Aviation Administration Category I certification.

BOTSWANA

Assistance in the Establishment of a Civil Aviation Authority for Botswana

Project goal

The objective of this project, funded by the Government of Botswana, was to establish an autonomous, efficient and effective civil aviation structure that responds to both the dynamics of the aviation industry and the country's social and economic development, while promoting trade and tourism. This project, which began in 2005, was completed in May 2011.

Project achievements

The Flight Safety Director (OPAS) completed his assignment in May 2011. The Flight Safety Inspectorate as described under the organizational structure of the Civil Aviation Authority of Botswana was entirely staffed. Safety management system guidelines for the service providers were finalized and published. The project continued to provide on-the-job training to the flight safety inspectors.

CAPE VERDE

ANS Safety Oversight Capability

Project goal

The objective of this project, funded by the Civil Aviation Agency (AAC) of Cape Verde, was to assist the AAC in enhancing aviation safety in Cape Verde and its airspace by implementing corrective actions for the rectification of deficiencies identified by the ICAO Universal Safety Oversight Audit Programme (USOAP) audit which had been carried out in September 2009 in the area of Air Navigation Services (ANS). The project, which began in January 2011 with an expected duration of nine months, was completed in October 2011.

Project achievements

The draft ANS-related regulations and procedures covering the provisions of Annexes 3, 4, 5, 10, 11, 12 and 15 were reviewed, and subsequently amended as required. An ANS Inspector Manual was developed. Workshops on aeronautical information management and Global Navigation Satellite Systems were conducted for the benefit of the AAC as well as the Air Navigation Services Provider (ANSP) personnel. A seminar on search and rescue was conducted. The Cape Verde national Search and Rescue (SAR) Plan was drafted and accepted by all members of the SAR Commission. Assistance was provided to the ANSP on aeronautical information service certification, on air traffic services capacity issues, as well as on the introduction of new services. Additional technical staff members were hired by AAC and were given on-the-job training.

CHINA

ICAO/China Developing Countries Training Programme

Project goal

The objective of this project, funded by the General Administration of the Civil Aviation Administration of China (CAAC), is for ICAO to assist in the administration of a programme to train participants from developing countries. 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 January 2009 with an expected duration of three years, was extended through December 2012.

Project achievements

No activities were carried out in 2011 for this project.

Assistance to Airport Administration of China (Macao (SAR)) (ADA)

Project goal

The objective of this project, funded by the Administration of Airports Ltd. of China (Macao (SAR)) (ADA), was to provide ADA with technical and operational advice in the upgrade and replacement of communication, navigation and surveillance systems in operation at the Macao International Airport. The project which began in March 2010, with an expected duration of nine months, was extended to March 2011 and is now completed.

Project achievements

Radar systems, communications systems and air navigation equipment were commissioned, and training was provided for these systems.

COSTA RICA

Master Plan for the Daniel Oduber 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 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. However, this project was reinstated in 2011 for a duration of six years.

Project achievements

Due to the reorientation of government priorities, implementation activities in 2011 were minimal.

Civil Aviation Purchasing Service (CAPS)

Project goal

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA), is to procure equipment to strengthen the aeronautical authorities. This project began in 2007 and was extended through December 2016.

Project achievements

Contracts were signed for the procurement of voice communication control systems, passenger boarding bridges and two lifting vehicles for disabled passengers.

CUBA

Civil Aviation Purchasing Service (CAPS)

Project goal

The objective of this project, funded by the Government of Cuba, is to assist the Cuban Civil Aviation Institute (IACC) to modernize its civil aviation infrastructure. The project began in October 2010 with an expected duration of three years.

Project achievements

Due to the reorientation of the IACC, no activities were carried out in 2011 for this project, which has been put in abeyance until further notice.

CURAÇAO (THE NETHERLANDS)

Technical Cooperation Assistance — Survey for Possible Height Limitations

Project goal

The objectives of this project, funded by the Curaçao Airport Holding, were to undertake a safety risk assessment based on ICAO safety management methodology and conduct an aeronautical study to determine the maximum allowable height limitations for the area around the Curaçao International Airport. The project, which started in July 2011 for an expected duration of one month, was completed.

Project achievements

A mission was undertaken to evaluate and review the airport master plan, airport layout plan, and topographic plans of the airport and surrounding areas of the Curaçao International Airport to define the airspace around the aerodrome that is required to be maintained free from obstacles and to determine the height limitations around the airport.

ECUADOR

Strengthening of the Civil Aviation Sector

Project goal

The objectives of this project, funded by the Government of Ecuador and the United Nations Development Programme (UNDP), are to develop a national air navigation plan in the context of a civil aviation development master plan; modernize the air traffic management system; advise the Government on the establishment of a concession for the operation of existing and new airports in Guayaquil and Quito; redesign the organizational structure of the Directorate General of Civil Aviation (DGCA); upgrade its human resource capabilities through staff training; and optimize the fulfilment of its safety oversight responsibilities. This project, which started in 1998 with an expected duration of nine years, was extended to December 2012.

Project achievements

Procurement of very-small-aperture terminal (VSAT) systems was processed, including the delivery of six shipments of VSAT equipment, the completion of the final site acceptance tests and the beginning of operations. The renewal for one year of the World Area Forecast System equipment maintenance contract was concluded.

EL SALVADOR

Technical Cooperation Assistance — Assessment of Current Airport Infrastructure

Project goal

The objectives of this project, funded by the “Comisión Ejecutiva Portuaria Autónoma” (CEPA), were to conduct an assessment of the current El Salvador International Airport (AIES) infrastructure and equipment associated with air navigation; provide preliminary recommendations for the improvement, acquisition and replacement of equipment, facilities and services; and prepare an update to the master plan considering future demands. In addition, the project provided for the development and definition of the Terms of Reference for an ICAO Technical Cooperation project, which would undertake the implementation of the recommended actions resulting from this initial assessment. The project, which started in September 2011 for an expected duration of one month, was completed.

Project achievements

Recommendations for immediate action and medium-term activities were provided, including the acquisition and replacement of equipment and the update to the AIES master plan.

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, 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 was extended through 2012.

Project achievements

A State safety oversight system and a control and surveillance mechanism were implemented. Eighteen airworthiness reviews were performed, and all the airworthiness files of the recertified aircraft were developed. The certificate of the flag operator's aircraft maintenance organization was renewed, and nine foreign aircraft maintenance organizations were validated. The flag operator's continuing airworthiness management organization was certified, and six foreign continuing airworthiness management organizations were validated. Equatorial Guinea Civil Aviation Regulations (RAGCE) were developed and are pending approval. The equivalent of 1 220 man-hours of audits and inspections have been performed in the area of airworthiness. An equivalent of 1 060 man-hours of audits and inspections were performed in the operations area.

GABON

Strengthening of the Agence Nationale de l'Aviation Civile (ANAC) Aviation Regulatory Oversight System

Project goal

The objective of this operational assistance (OPAS) project, funded by Gabon, was to assist the government to address safety shortcomings identified by the

ICAO comprehensive systems audit conducted in May 2007. The project was carried out in two phases. First, remedial actions were taken to mitigate safety concerns. During the second phase, the Civil Aviation Authority was reinforced to perform its task of safety oversight in the fields of personnel licensing, airworthiness and flight operations. The project, which commenced in November 2008, was completed in April 2011.

Project achievements

The Universal Safety Oversight Audit Programme (USOAP) Corrective Active Plan was updated. A set of regulations covering mainly personnel licensing, airworthiness and aircraft operations were developed or updated and adopted by Gabon. The project also assisted the ANAC in the preparation and subsequent participation at the Air Safety Committee of the European Commission. New forms and checklists were developed and implemented for the inspectors and for the industry for applications, approvals, and review of documents. The project continued to implement the training plan developed for the flight safety inspectorate by providing either on-the-job training or by organizing overseas courses. An aviation library was put in place, and the ANAC subscribed to major aviation documents.

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 began in 2000 and was extended beyond 2011.

Project achievements

The project provides support to the HCAA to exercise safety oversight responsibilities in the field of aircraft flight operations and with the development of a sustainable airworthiness system. Expert services have been provided by three flight operations inspectors, three airworthiness inspectors and one personnel licensing consultant.

GRENADA

Technical Cooperation Assistance — Survey for Possible Height Limitations

Project goal

The objectives of this project, funded by the Government of Grenada, were to undertake a safety risk assessment based on ICAO safety management methodology and conduct an aeronautical study to determine the maximum allowable height limitations for the area around the Maurice Bishop International Airport. The project, which started in May 2011 for an expected duration of one month, was completed.

Project achievements

A mission was undertaken to evaluate and review the airport master plan, airport layout plan, and topographic plans of the airport and surrounding areas of the Maurice Bishop International Airport to define the airspace around the aerodrome that is required to be maintained free from obstacles and to determine the height limitations around the airport.

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 December 2012.

Project achievements

A backup and medium power system for the passenger terminal at La Aurora International Airport has been installed, reducing the cost of electrical energy service. In addition, an automated baggage handling system has been procured. The remodelling of the building housing the Civil Aviation Authority was completed, improving the infrastructure of the building, current services and equipment.

HAITI

Post-2010 Haiti Earthquake Reconstruction and Modernization of the Air Navigation Infrastructure, Improving Services and Strengthening of the Civil Aviation Authority

Project goal

This project is funded by the National Civil Aviation Office (OFNAC). Phase I is aimed at accomplishing the post-2010 Haiti earthquake reconstruction and modernization of air navigation infrastructure as well as improving the provision of services which will contribute to the effectiveness of the air operations at Toussaint Louverture International Airport in Port-au-Prince, the Port-au-Prince Flight Information Region (FIR)/Area Control Centre (ACC) and the Cap Haïtien International Airport. Phase II is aimed at strengthening the administrative and financial autonomy of the OFNAC as the air transport regulating agency and translating the basic civil aviation law that was started in Phase I of the Project. In addition, Phase II will provide training to operational, technical and management staff, which will help them to implement improvements in the OFNAC in order to comply with ICAO Standards and Recommended Practices (SARPs), regional requirements and an English proficiency level IV standard. The project, which began in 2009 for the purpose of strengthening of the Civil Aviation Authority, was expanded in its objective and extended through June 2014.

Project achievements

The Terms of Reference submitted to the government for an assessment mission were approved. They provided the technical requirements for a World Bank emergency grant regarding the repair of two very-high frequency (VHF) omni-directional radio ranges, the upgrade of VHF systems, pavement refurbishment, the replacement of the approach lighting system and the training of air traffic controllers.

INDIA

Development/Modernization of Indira Gandhi International Airport, New Delhi

Project goal

The objective of this project, funded by the Delhi International Airport Limited (DIAL), was to assist DIAL in the technical review of the design, construction and installation of airside facilities, with a primary focus on the review of the level of compliance with the relevant ICAO Standards and Recommended Practices (SARPs). The project, which began in 2008, was completed in 2011.

Project achievements

An air traffic forecasting expert provided a study on the air traffic forecast of the New Delhi catchment area. A proposal for an airside improvement study at Delhi International Airport was presented with the objective to maximize the runway and airspace capacity by the utilization of all three runways in a safe and efficient manner.

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, was extended through 2012.

Project achievements

Draft reports were submitted to the DGCA for review and comment. The communications, navigation, surveillance (CNS) expert remains on site to complete on-the-job training tasks.

Master Plan/Detailed Project Report/Preliminary Designs Review for Navi Mumbai International Airport (NMIA)

Project goal

The objective of this project, funded by the City and Industrial Development Corporation of Maharashtra (CIDCO), is to provide assistance to CIDCO in the review of the NMIA master plan, detailed project report and preliminary designs being developed by CIDCO's prime consultant. ICAO reviews will focus primarily on assuring compliance of the plans/documents with ICAO Standards and Recommended Practices (SARPs), DGCA-issued Civil Aviation Requirement (CAR) and Bureau of Civil Aviation Security-issued guidelines. The project began in 2008 with an expected duration of four years.

Project achievements

A team of ICAO experts was fielded, and a further review of the detailed design of NMIA has been proposed to CIDCO.

SMS Training for Mumbai International Airport Authority (MIAL)

Project goal

The objective of this project, funded by MIAL, was to conduct a training course for MIAL on the subject of safety management for airports. The project, which began in 2011, was completed.

Project achievements

Thirty-six senior managers from MIAL, the Directorate General of Civil Aviation of India, the Airports Authority of India and the Bangalore International Airport attended the safety management system course.

Traffic Forecast for Airports in National Capital Region

Project goal

The objective of this project, funded by the Airports Authority of India (AAI), was to provide to the Government of India, Ministry of Civil Aviation and AAI a traffic forecast for airports in the National Capital Region for the next 20 years. The project, which commenced in 2011 with an expected duration of six weeks, was completed.

Project achievements

The results of the study and the draft terminal report have been submitted to AAI.

Road Map for the Development of General Aviation, Helicopter & Seaplane Services

Project goal

The objective of this project, funded by the Government of India, Ministry of Civil Aviation/Director General Civil Aviation (MoCA/DGCA), is 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 commenced in November 2011 with an expected duration of four months.

Project achievements

A project team comprising four international experts and four national professionals has been assembled.

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, was extended through December 2012.

Project achievements

ICAO initiated the recruitment of an expert in airport operations management and another expert in airport cargo management to support IAA in the development and delivery of two courses conducted at the academy. Twelve fellowships were awarded in the fields of airport cargo management and airport operations management.

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 improved implementation and compliance with ICAO Standards and Recommended Practices (SARPs), guidance material and the Global Aviation Safety Plan (GASP) proactive approach to flight safety and the reduction of aircraft accidents. The project began in 2009 with an expected duration of three years.

Project achievements

Six new cabin safety inspectors were trained and courses provided to approximately 42 personnel on a variety of safety-related subjects. On-the-job training (OJT) was provided to 31 personnel. A major Aviation Safety and Crew Resource Management Workshop was conducted by The Boeing Company, attended by approximately 300 crew members, management, and government personnel. Twenty-six DGCA Civil Aviation Safety Regulations, staff instructions,

checklists and related regulations were updated to comply with Annexes 1, 6, and 8. Documentation addressing safety concerns with an emphasis on surveillance oversight, corrective actions and training were processed. OJT in conjunction with comprehensive in-depth inspections was performed on four major air carriers resulting in significant findings. Follow-up corrective actions were taken on all major findings. Project personnel assisted the DGCA in the coordination and preparation for the European Union (EU) Air Safety Committee video conference culminating in the successful removal of four cargo air carriers from the EU ban to overfly European territory.

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), is 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 began in June 2009 with a planned duration of two years and was extended until October 2012.

Project achievements

Implementation of the National Aviation Safety Programme and the safety management system for all aviation service providers continued. An ICAO Desk was established within the DGCA to function as a single point of contact for all ICAO correspondence and State Letters. A procedure was developed and implemented for reporting bird strike reports to ICAO in accordance with the Standards and Recommended Practices (SARPs).

Assistance to the Education and Training Agency in Development of CNS/ATM Training at the Indonesian Civil Aviation Institute (ICAI), Curug, Indonesia

Project goal

The objective of this project, funded by the Education and Training Agency now renamed Human Resources Development on Transport Agency, was to evaluate all aspects of training provided by ICAI in the fields of communications, navigation, surveillance/air traffic management (CNS/ATM), and aeronautical information service, as well as quality management, and to submit a proposal for the development, upgrading and modernization of the training programme through a Phase 2 ICAO institutional strengthening project with a view to

enabling the institute to provide efficient and effective training to national and international students in these disciplines. The project, which began in February 2011 with a planned duration of one month, was completed.

Project achievements

The ICAO CNS/ATM training consultant undertook an evaluation of CNS/ATM training regulations and policy, organizational structure, instructor qualifications, quality control, training manuals, curriculum and syllabi, operating rules, training facility, reference material, examination development, system administration, laboratory and simulators, workshop, on-the-job training, international certification and recognition at ICAI. A report of findings and recommendations for institutional strengthening, including a proposal for a Phase 2 CNS/ATM project, was prepared.

Assistance to the Education and Training Agency in Development of Aircraft Maintenance Training at the Indonesian Civil Aviation Institute (ICAI), Curug, Indonesia

Project goal

The objective of this project, funded by the Education and Training Agency, now renamed Human Resources Development on Transport Agency, was to evaluate all aspects of training provided by ICAI in the fields of aircraft maintenance and submit a proposal for development, upgrading and modernization of this training to the latest requirements and standards through a Phase 2 ICAO institutional strengthening project with a view to enabling the institute to provide efficient and effective training to national and international students in these disciplines. The project began in February 2011 with a planned duration of one month and was completed.

Project achievements

The ICAO aircraft maintenance training consultant conducted an evaluation of the aircraft maintenance training regulations and policy, organizational structure, staff, quality control, curriculum and syllabi, general operating rules, facilities, reference material, examination and examination development, system administration on laboratory and simulator activity, on-the-job training, international certification and recognition at ICAI. A report of findings and recommendations for institutional strengthening, including a proposal for a Phase 2 aircraft maintenance training organization project, was prepared.

LEBANON

Reactivation of the Civil Aviation Safety Centre

Project goal

The objective of this project, funded by the Government of Lebanon, is the reactivation of the Civil Aviation Safety Centre (CASC). This project will address directly issues related to human resources development and transfer of technology to Lebanon. This project began in 2002 and has been extended through December 2012.

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 the strengthening of the safety oversight capability of the Flight Safety Directorate; the enhancing of the safety and efficiency of Beirut International Airport; the updating of safety oversight regulations, procedures and manuals and ensuring their compliance with international requirements as well as the reactivation of the Civil Aviation Safety Centre (CASC). This project began in 2002 and was extended through April 2012.

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.

MEXICO

Course on Airport Certification

Project goal

The objective of this project, funded by the Government of Mexico, was to assist the Directorate General of Civil Aviation (DGCA) by providing training to airport personnel on airport certification with a view to strengthening the national aeronautical system. Project activities include courses on the subjects of aerodromes, air routes and ground aids based on ICAO Standards and Recommended Practices (SARPs) and the Universal Safety Oversight Audit Programme (USOAP) recommendations to be delivered by international experts, including field work in selected airports. This project, which began in June 2008, was postponed until further notice.

Project achievements

After coordination with the Mexican authorities, it was agreed that project activities would be postponed until further notice due to lack of funding by the DGCA and it was therefore decided to close this project.

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 action to address these shortfalls, and a second phase to establish a sustainable certification and surveillance system. The project, which began in 2009, was extended through 2012.

Project achievements

The first draft of the updated Primary Aviation Law was completed and subsequently introduced in the legislative process. The update of Namibian Civil Aviation Regulations and the Civil Aviation Technical Standards was completed. Significant progress was achieved in the implementation of the USOAP Corrective Action Plan. A comprehensive surveillance plan was developed and implemented throughout the year. Project experts continued to provide on-the-job

training, and fellowships were awarded to Namibian nationals. The air traffic controllers OPAS team provided training on the radar surveillance system**.** Namibia was removed from the ICAO Audit Results Review Board (ARRB) list.

NEPAL

Introduction of the TRAINAIR Programme at the Civil Aviation Academy of Nepal

Project goal

The objective of this project, funded by the Civil Aviation Authority of Nepal (CAAN), was to introduce the TRAINAIR Programme at the Civil Aviation Academy (CAA) of Nepal by establishing a centralized Course Development Unit, completing at least one Standardized Training Package (STP) and adapting at least one imported STP from the international TRAINAIR sharing pool. The project began in October 2010 with an expected duration of nine months and was completed.

Project achievements

A permanent TRAINAIR course development unit (CDU) was established at the CAA; standard TRAINAIR procedures have been instituted, and an STP on communications, navigation, surveillance/air traffic management (CNS/ATM) technologies for air navigation services (ANS) managers was imported and adapted from the international TRAINAIR sharing pool.

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 Directorate General of Civil Aviation and Meteorology 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, was extended through December 2012.

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. There is ongoing development of civil aviation regulations and procedures in compliance with ICAO Standards and Recommended Practices (SARPs).

Study of Obstruction Limitation Surfaces

Project goal

The objective of this project, funded by the Government of Oman, is to provide a "Study of obstruction limitation surfaces and land use around the airports of Oman" through a Civil Aviation Purchasing Services Agreement. This project, which began in November 2010 for a duration of two months, has been extended through 2012.

Project achievements

Phase I of the study concerning obstacles limitation surfaces has been delivered and a training component for both administrative and technical Civil Aviation Authority staff implemented.

PAKISTAN

Civil Aviation Purchasing Service Agreement for the Procurement of Complete Primary and Secondary Radar System, three Doppler VHF Omni-directional Radio Range/Distance Measurement Equipment (DVOR/DME) and two Instrument Landing Systems/Distance Measurement 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 began in April 2010 with an expected duration of 30 months.

Project achievements

Contracts were signed for the DVOR/DME and ILS/DME systems. A tender for a complete primary and secondary radar system was conducted, and a technical evaluation of the bids was sent to the Pakistan Civil Aviation Authority.

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

Installation of a very-small-aperture terminal (VSAT) node in the Balboa Air Traffic Control Centre was carried out, including the aviation meteorology/ aeronautical information services software and the aeronautical fixed telecommunication network connection. In the Ruben Cantu Airport, conventional VHF omni-directional radio range/distance measuring equipment was installed. The installation of a closed circuit television system at the Alonso Valderrama airport was completed. Equipment and communication systems required to enhance the performance of several airports and dependencies in the Civil Aviation Authority were procured, including a statistics system for the Directorate of Air Transport of the CAA, new radios for the operation of a flight simulation system, five instruction programmes for continuous training and competency certification of the aviation security personnel. A total of 172 technicians and specialists received training in the areas of navigation, radar approach, air operations and aviation safety.

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, has been reopened and extended through 2012.

Project achievements

The procurement of twelve new boarding bridges, as well as the upgrade of the automatic handling system to meet all security levels, were completed. Tocumen International Airport (TIA) personnel received training in a number of aviation-related topics. Ten international seminars were delivered on a number of airport management-related subjects. A threshold and runway end lighting system, an approach lighting system and a precision approach path indicator system as well as airfield lighting equipment and associated equipment and services were provided. An airport master and business plan was prepared by a team of ICAO international experts.

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. The project began in July 2009 with an expected duration of five years.

Project achievements

The second phase of training of personnel involved in the operation and maintenance of the equipment and systems was completed. The final phase of the provisional site acceptance test was conducted for eight radar sites, the ADS-B site, the new area control centre building integrated with the air traffic control tower, and the radar simulator.

Qualification of Cajamara Airport for H24 operational time

Project goal

The objective of this project, funded by the Mining Company of Yanacocha through the Government of Peru, is to assist the "Corporación Peruana de Aeropuertos y Aviación Comercial" (CORPAC S.A.) in the procurement of equipment and the training of technical personnel. This project began in October 2011 with an expected duration of six months.

Project achievements

Tendering and evaluation of proposals were carried out for the procurement and installation of an aerodrome lighting system, a communication system and an automatic weather observation system with runway visual range and a wind shear detection system to upgrade the Cajamarca airport for H24 operation.

PHILIPPINES

Improvement of Aviation Safety in the Philippines by Enhancing the Capability of 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, was extended through June 2012.

Project achievements

The ICAO project team continued directing efforts towards resolution of findings from the 2009 Universal Safety Oversight Audit Programme (USOAP) audit. The operational assistance (OPAS) experts introduced a qualifications matrix as the basis to evaluate the level of compliance of safety oversight personnel in airworthiness, flight operations and approved training organizations. A training plan was developed for new or recurrent training. National professionals were hired and trained through the project, and some were in the process of being absorbed by CAAP in management as well as inspectorate positions while they continue oversight work in the industry. CAAP continued to maintain a qualified and experienced workforce in the flight operations inspector section by contracting retired airline check pilots. Assistance was provided to the CAAP in addressing safety oversight requirements of the United States Federal Aviation Administration (FAA) and the European Union Air Safety Committee, which issued a ban on all operators of the Philippines to overfly European territory. Tentative agreements were reached with private schools and aircraft maintenance organizations to provide fully-equipped skills-testing examination facilities to CAAP. A document conversion project was successfully carried out resulting in the digitalization, classification and indexing of some 3.3 million documents that are accessible digitally to users with appropriate authorization.

The project team developed and presented a feasible action plan on how to resolve ICAO's significant safety concerns (SSC) and return to Category I with the FAA while attaining sustainability.

Civil Aviation Purchasing Service Agreement with Mactan-Cebu International Airport Authority — Procurement of Two Instrument Landing Systems/Distance Measurement 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 began in April 2010, with an expected duration of 15 months, and was extended through 2012.

Project achievements

The second of the two ILS/DME systems was delivered and installed. After calibration and testing of the equipment, the provisional site acceptance testing (PSAT) and flight check were conducted. The PSAT procedures were forwarded to MCIAA for their review and comments. On-the-job training was conducted by the contractor.

QATAR

Airport Development

Project goal

The objective of this project, funded by the Government of Qatar, was to assist the Civil Aviation Authority (CAA) in developing and building the New Doha International Airport (NDIA), which will be completely independent of the existing airport. ICAO assistance consisted of providing aerodrome engineering expertise as well as act as the CAA representative with the contractors and consultants. This project, which began in 2003 with an expected duration of five years, was extended through June 2011 and is now completed.

Project achievements

The NDIA Steering Committee was assisted in its review of the proposed concepts and designs for all facilities from a technical and management perspective.

Review of the Master Plan for Aerospace City International Airport

Project goal

The objective of this project, funded by Qatar Foundation, was to provide consulting services for reviewing the Master Plan/Detailed Design Report for Aerospace City Airport, Qatar, for compliance with ICAO Standards and Recommended Practices (SARPs), procedures and guidance material. This project began in November 2010 for an expected duration of two years and is now completed.

Project achievements

A multidisciplinary team provided comments on the Master Plan/Detailed Design Report to the Qatar Aerospace City Airport and submitted its final report on the basis of comments received.

REPUBLIC OF KOREA

ICAO/Republic of Korea Developing Countries Training Programme

Project goal

The objective of this project, which is funded by the Government of the Republic of Korea, is for ICAO to assist the Civil Aviation Safety Authority (CASA) and the Korea Civil Aviation Training Centre (KCATC) in the administration of a programme to train participants from developing countries selected by the CATC. This 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 2007, was extended through December 2012.

Project achievements

Two-hundred-and-two fellowship awards were issued by ICAO to participants from 51 developing countries for training conducted at the KCATC and the Incheon International Airport Corporation Aviation Academy in the disciplines of Doppler VOR 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 and aviation policy for executives.

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 2012.

Project achievements

Twenty-four international experts worked on this project in 2011, providing consultancy services to project managers and Saudi Arabian counterparts. Project activities included inspections of air carriers/operators and safety oversight of GACA-certified repair stations. The ICAO training experts, together with national instructors, provided GACA personnel with comprehensive courses in the areas of communications, navigation and surveillance/air traffic management (CNS/ATM), radar and non-radar courses, and simulator training. Expertise was also provided on the establishment and implementation of a professional career enhancement programme for the future development of fire rescue services. Resulting from these ongoing training efforts, GACA has succeeded in filling additional posts with qualified Saudi Arabian nationals. Technical advice was provided in the field of airport engineering to assist in the review of current and future projects.

SINGAPORE

Singapore-ICAO Developing Countries Training Programme

Project goal

The objective of this project, which is funded by the Civil Aviation Authority of Singapore (CAAS), is 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. The project, which began in April 2001 for an expected duration of three years, was extended through 2012.

Project achievements

Eighty-one participants from 39 developing countries were selected for participation in eleven courses which were conducted in the disciplines of airport terminal operations and management; crisis management in aviation security; civil aviation management; communications, navigation and surveillance/air traffic management; international air law: concepts and applications; emergency management; State safety programme; safety oversight inspectors engineering, flight operations and maintenance; and safety oversight managers.

Wildlife Hazard Assessment and Training

Project goal

The objective of this project, funded by the Changi Airport Group (CAG), was to carry out a wildlife hazard assessment and provide CAG with training aimed at establishing an effective wildlife hazard management programme at Changi International Airport. This project, which began in November 2010 with an expected duration of nine months, was completed.

Project achievement

An ICAO wildlife management expert carried out a risk assessment of wildlife hazards to aircraft; assessment of hazardous wildlife by species and season; description of wildlife attractants at and near the airport; recommended equipment and procedures to address hazards including active control and habitat management; as well as methods to address off-airport issues. Implementation issues were outlined and twelve recommendations were made. The hazard assessment was followed up by detailed wildlife control and management training sessions at Changi International Airport.

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. Due to the continuing instability, it was extended through 2012.

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, including aeronautical information service (AIS), aeronautical communications (AEROCOM) and aeronautical meteorological services 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, rescue and firefighting and ground marshalling services at Hargeisa, Berbera and Bosasso airports. The project operates an AEROCOM station at Garowe airport and an AIS briefing office at Hargeisa airport. With respect to human resources development, the project awarded seven fellowships in various civil aviation disciplines and was represented at two international seminars and workshops. CACAS also assisted UNDP in the assessment and certification of civil works at Hargeisa airport. The project undertook a mission to Mogadishu in collaboration with the United Nations Support Office for the African Union Mission in Somalia (AMISOM) (UNSOA) to assess operations at Mogadishu Airport and interview candidates for training in various fields of aviation. A technical audit/gap analysis study assessed the operations of the project as well the situation in Somalia for the purposes of transitioning the project to the Somali Authorities.

SUDAN

Capacity Building for Sudan CAA

Project goal

The objectives of this project, funded by the Government of Sudan, are to provide institutional strengthening, expertise and advice to the Sudan Civil Aviation Authority (SCAA); to assist the SCAA to accomplish its plans for further development; and to help the SCAA to modernize its structure. The final objective will be to enhance the SCAA's safety and operational capacity and assist the SCAA in the development of an efficient civil aviation structure. This project began in August 2011 for an initial duration of twelve months.

Project achievements

International experts were deployed to provide the SCAA with advice to ensure its compliance with international aviation conventions, ICAO Standards and Recommended Practices (SARPs) and related guidance material. A team of five ICAO experts was fielded, and they provided the required expertise for upgrading and modernizing air traffic management services, flight operations safety oversight capacity and personnel licensing methodologies to be adopted. The experts worked with available SCAA staff to train and develop their capacity in managing and overseeing critical aviation sectors.

Provision of Management and Technical Support Services

Project goal

The objective of this project, funded by the African Union-United Nations Hybrid Operation Mission in Darfur (UNAMID), was to provide aerodrome engineering expertise and project management support to UNAMID in the execution and implementation of airfield rehabilitation projects. The project, which began in December 2010, was completed in November 2011.

Project achievements

One aerodrome engineer assisted UNAMID and the Sudan Civil Aviation Authority (SCAA) in: the preparation of technical specifications, statement of works and invitations to tenders; prospective contractors' site inspection; tender technical evaluations; contract award process; site supervision; oversight of contractors' quality control; review of contractors' invoices; and in the acceptance and certification of completed work. Site supervision missions were conducted for the rehabilitation of three airports to monitor the installation of airfield lighting systems, Doppler very high frequency omni-directional radio range distance measuring equipment and instrument landing systems at three operational airports.

Provision of Technical Support Services

Project goal

The objectives of this project, funded by the United Nations Mission in Sudan (UNMIS), were to provide support to the UNMIS in its programme of rehabilitation and construction works at four airports; in the improvement of air navigation services; as well as in the development of an air traffic controller training plan. The project, which began in May 2010 with an expected duration of twelve months, was completed in July 2011.

Project achievements

Technical specifications were developed for the topographical survey, geological and laboratory tests as well as the construction of a soil/cement apron at the Juba Airport. Asphalt pavement technical specifications were developed for Khartoum and El Obeid airports. An aviation strategy was developed which mainly addressed the Sudan Civil Aviation Authority (SCAA) requirements for the construction and/or extension of runways and aprons, assistance in communication, navigation and surveillance/air traffic management (CNS/ATM) projects implemented by the SCAA, and the assessment of the existing strength of, as well as the future requirements for, air traffic control services. A CNS/ATM hazard assessment analysis and mitigation methods to improve flight safety conditions throughout Sudan were developed.

THAILAND

Revised Master Plans for Suvarnabhumi and Don Mueang International Airports

Project goal

The objective of this project, funded by the Airports of Thailand (AOT) Public Company Limited, was to assist AOT in the overall decision-making process regarding the long-term future roles of Don Mueang and Suvarnabhumi airports and the single-versus-dual airport policy for Bangkok, complementing the results of the dual operations study for the Bangkok metropolitan area that was completed in April 2010. The project began in April 2010 and was completed in March 2011.

Project achievements

Based on the findings of the single airport study, recommendations were made to the AOT as to the most viable options for the long-term future roles of Don Mueang and Suvarnabhumi airports.

Thailand-ICAO Developing Countries Training Programme

Project goal

The objective of this project, which is funded by the Civil Aviation Training Centre (CATC) of Thailand, is for ICAO to assist in the administration of a programme to train participants from developing countries selected by the training institute. 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 2009, was extended through 2012.

Project achievements

A total of 192 participants were selected from 23 developing countries for eight courses conducted in the fields of aviation English language proficiency interviewer/rater, dangerous goods management, human factors for operational personnel, instructor training, performance-based navigation, and safety management systems.

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 initial duration of four years.

Project achievements

Project staff assisted the DINACIA in the recruitment of national professionals for critical areas such as operations inspection, international legal advisory, quality assurance and computer technology. The DINACIA personnel received training on personnel licensing, operations, airworthiness, air navigation, aviation security, facilitation, legal matters and safety management systems. All operations and airworthiness inspections undertaken by DINACIA in 2011 were conducted through the project. A significant number of Uruguayan Aeronautical Regulations were developed in areas such as aerodromes, accident investigation, aeronautical meteorology, and search and rescue. Additional regulations are being developed or harmonized with the Annexes to the Chicago Convention and the Latin American Aeronautical Regulations. A full communications system and a radar system were acquired.

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 began in 2005 and was extended through December 2012.

Project achievements

A contract was signed for the procurement of two fire fighting vehicles.

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 to assist the National Institute of Civil Aeronautics (INAC) in the modernization of air traffic control and airport services with a view to ensuring the safety and development of civil aviation in Venezuela (Bolivarian Republic of). This project, which began in 2004, was extended through 2012.

Project achievements

The construction of two control towers has been completed and the supply of additional equipment and materials concluded.

INTER-COUNTRY AND INTER-REGIONAL LISTINGS

AFRICA REGION

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) (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), the United States Federal Aviation Administration (FAA) and the International Financial Facility for Aviation Safety (IFFAS), 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. BAGASOO, which institutionalized the COSCAP-BAG project that came to an end in July 2010, was established under the auspices of the BAG pursuant to the BAG Agreement signed by the Ministers responsible for civil aviation within the BAG Member States. The project, which began in July 2010 with an initial duration of one year, was extended through 2012.

Project achievements

The BAGASOO website was established and is fully operational. The development of regional databases or registers of aircraft, leased foreign aircraft, air operators certificate holders, approved maintenance organizations and aviation training organizations was initiated and the databases populated. Collaboration arrangements were established with agencies such as the FAA and EASA to foster technical assistance in the area of training for the benefit of national inspectors and industry in the BAG region. BAG Member States benefitted from training on Safety Assessment of Foreign Aircraft. During technical missions, Sierra Leone was provided with recommendations for remedying deficiencies pertaining to the State's safety oversight capability, and Nigeria's aerodrome regulations and aerodrome inspector handbook were reviewed and updated and aerodrome guidance materials reviewed.

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 Member States of the Agency for Aerial Navigation Safety in Africa and Madagascar i.e. Bénin, Burkina Faso, Côte d'Ivoire, Cameroon, Comoros, Congo, Central African

Republic, Chad, 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 that will assist its Member States in the performance of their safety oversight functions. The project, which began in September 2010 with an expected duration of twelve months, was extended through 2012.

Project achievements

A project team leader was recruited. A draft treaty for the establishment of the Organization was prepared and submitted to Member States. The revised version of the treaty was presented to and approved by the Council of Ministers. Drafting of manuals on administrative and technical issues was initiated.

Cooperative Arrangement for the Prevention of Spread of Communicable Disease through Air Travel (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, Cape Verde, Chad, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Gambia, Kenya, Lesotho, Mali, Mozambique, Nigeria, South Africa, United Republic of Tanzania, Togo, 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 commenced in March 2008, was extended through 2012.

Project achievements

A workshop was held in Bamako to provide States with the necessary tools for the development of plans and procedures for dealing with public health emergencies that affect the aviation sector. The Second Global CAPSCA Coordination meeting was held in Abuja, in conjunction with the Second Steering Committee Meeting. Training of technical advisors for the conduct of State/ Airport Assistance visits under the CAPSCA Project was provided and visits were carried out to Abidjan, Bamako, Maseru, Nairobi and Abuja international airports. During the year the project was joined by Angola, Gabon, Gambia, Lesotho, Mali, Mozambique, United Republic of Tanzania, Togo, Zambia and Zimbabwe. This

increase in participation, in meetings, assistance visits and other advocacy activities demonstrates the heightened awareness of States in relation to their obligations under the Convention on International Civil Aviation.

Cooperative Development of Operational Safety and Continuing Airworthiness Project — 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, the French Cooperation and the International Financial Facility for Aviation Safety (IFFAS), 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 2012.

Project achievements

The project staffing was reinforced to include one additional flight operations inspector. A set of draft common technical regulations covering ICAO Annexes 1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 15 and 18 as well as an inspector's manual were updated and submitted to the UEMOA Commission to initiate the adoption process. Assistance missions were carried out in UEMOA States for the implementation of their corrective actions plans following ICAO Universal Safety Oversight Audit Programme (USOAP) audits. The project was also involved in assistance missions conducted by European Aviation Safety Agency (EASA) as well as in the assistance provided within the framework of the AFI-Cooperative Inspectorate Scheme. The Seventh Steering Committee was held. Project staff attended seminars and workshops of the Advisory Committee on Immunization Practices, the EASA International Cooperation Forum on Third Country Operators, the US/Europe International Aviation Safety Conference, the AFCAC preparatory meeting for the ICAO Regional Safety Oversight Organizations symposium, and Part II of the European Safety Assessment of Foreign Aircraft inspections training. National inspectors received training in the fields of airworthiness and aerodromes.

Cooperative Development of Operational Safety and Continuing Airworthiness Project 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 is 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, the International Financial Facility for Aviation Safety (IFFAS) and Transport Canada, are 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 was approved in 2005 but only commenced in 2008 due to political instability and travel restrictions to N'Djamena which is the designated location for the COSCAP-CEMAC project, had an expected duration of 36 months. The project was further extended through 2012.

Project achievements

The project team was reinforced by the recruitment of an aerodrome safety and certification expert and a second regional flight operations inspector. The draft CEMAC Civil Aviation Code was reviewed and endorsed by the Flight Safety Work Group. Fourteen regulatory texts covering Annexes 1, 6-I, 6-III, 8 and 14 were reviewed and endorsed by the Flight Safety Work Group, approved by the Steering Committee and forwarded to the CEMAC Commission for adoption. With the assistance of the ICAO Advisory Committee on Immunization Practices — Africa and Indian Ocean Programme, a study on the organization and operation of the Regional Safety Oversight Agency was completed and the relevant legal instruments for its establishment submitted to the CEMAC Commission for adoption. Training in safety assessment of foreign air operators was delivered to national and regional inspectors with the assistance of EASA. Assistance missions were conducted to each of the COSCAP-CEMAC/STP Member States.

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), the United States Federal Aviation Administration (FAA) and the International Financial Facility for Aviation Safety (IFFAS), 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 began in April 2008 and has been extended through 2012.

Project achievements

Two regional flight safety inspectors were recruited. The SADC Ministers responsible for transport and meteorology approved the draft Model Civil Aviation Act and Regulations which are the principal regulatory harmonization tools used by SADC Member States, as well a draft Charter which establishes the legal and institutional structure of the SASO. A two-week technical assistance mission to Zambia was conducted and a three-week training mission was carried out in South Africa in order to assist in the provision of certification and surveillance instruction given to SADC national flight operations inspectors in need of ICAO government safety inspector operations training.

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, 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 began in 2007 with an expected duration of five years.

Project achievements

Project activities continued with the development of action plans aimed at implementing performance-based navigation en-route, terminal areas and approach; air traffic flow management; capacity improvements in communications, navigation and surveillance; interconnection of automated air traffic management in area control centres; and interconnection of the air traffic services (ATS) message handling system. The implementation of ATS routes network Version 1 was completed, and the development of ATS routes network Version 2 was initiated. A contingency plan to address volcanic ash was developed as were guidelines for aeronautical studies in the aerodromes field. Activities aimed at implementing a quality management system for meteorological services were initiated. The project supported the convening of two meetings of the SAM implementation group and sponsored the delivery of seven training programmes related to the above-mentioned subject matters, as well as the calculation of the capacity of aerodromes and air traffic control sectors, with the participation of 332 specialists from 14 States.

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, inter-connectable and inter-operable 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 2014.

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 six logistics-related operations were completed, including the shipment of spare parts to Member States, the coordination of repairs with the manufacturers, and the purchasing of the necessary additional spare parts. New services were implemented, including radar and flight data interchange between area control centres (Argentina, Uruguay, Brazil and Venezuela (Bolivarian Republic of)), automated message handling systems operational interconnection (Peru, Colombia, Georgetown and Paramaribo), air traffic services speech and aeronautical fixed telecommunication network services for the "Mejoras al Enlace de Voz ATS/Improvements to ATS Voice Link" (MEVA) II REDDIG interconnection (Caracas and Bogotá). A seminar/workshop on new technologies in satellite and terrestrial networks was carried out with the participation of 34 nationals from eleven Member States and seven international organizations. Eight fellowships were awarded. A study for the implementation of a new regional network (REDDIG II) and its respective technical specifications were drafted.

Cooperative Arrangement for the Prevention of Spread of Communicable Disease through Air Travel (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, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Suriname, Trinidad and Tobago, 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. 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 began in December 2008 and was extended through December 2012.

Project achievements

The Third Meeting of the Regional Aviation Medicine and Public Health Team, the Third Steering Committee of CAPSCA Americas, the Regional Seminar on Public Health Emergency Planning and Preparedness, and technical advisor training were conducted jointly with the WHO Pan American Health Organization in May 2011. Implementation of the CAPSCA-Americas Work Programme progressed. On-the-job training of technical advisors for the conduct of State/Airport Assistance visits was provided, and visits were carried out in Bolivia (Plurinational State of), Brazil, Cuba, Costa Rica, Guyana, Honduras, Nicaragua and Suriname. Belize, Ecuador, Guyana, and Trinidad and Tobago joined the project during 2011.

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, Cuba, Guatemala, Spain, 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 2012.

Project achievements

Studies were completed on the subjects of monitoring network requirements, centre definition for data gathering and distribution, technical analysis of the satellite-based augmentation system-solution of augmentation for the Caribbean, Central and South America (SBAS-SACCSA), ionosphere analysis, ground network topology, central processing unit (UCP) prototype, SACCSA interoperability analysis as well as SACCSA WEB portal and WEB portal requirements. During the Seventh Meeting of the Coordination Committee, the first SACCSA signal-in-space (SIS) was delivered in test mode.

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

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 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 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 with 115 participants. In connection with the IDISR programme, information on 728 ramp inspections was uploaded into the database. In addition, support was provided to three States for the training of safety inspectors in different areas. A training course on safety management system evaluation was offered and

conducted by Transport Canada with the participation of 20 airworthiness inspectors. LARs on personnel licensing, airworthiness and operations as well as the airworthiness and operations inspector manuals were updated. The development of LARs on aerodromes, air routes and ground aids in accordance with Annex 14 was initiated. 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. Five 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 2014.

Project achievements

Three international seminars were delivered on the subjects of cargo, facilitation, and planning and management of major events affecting civil aviation, with the participation of 162 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 masters programme, which covered areas such as airport operations, air navigation services and airport management.

ASIA AND THE PACIFIC REGION

Asia-Pacific Flight Procedure Programme (FPP)

Project goal

This programme is a regional cooperative 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, Mongolia, Republic of Korea, Singapore, Thailand, and the Philippines. In addition, the States of Afghanistan, Bangladesh, Cambodia, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Lao People's Democratic Republic,

Maldives, Timor-Leste and Viet Nam participate in the programme as user participating States, but do not make annual contributions. The FPP is executed by means of an ICAO Trust Fund project provided by the contributing States, with in-kind and funding support in 2011 from the United States Federal Aviation Administration (FAA), Civil Aviation Administration of China, French Directorate Générale de l'Aviation Civile (DGAC), Hong Kong Civil Aviation Department (CAD), IATA, Airbus and The Boeing Company, The programme objective 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. This programme began in January 2010 and has an expected duration of three years.

Project achievements

The second and third PANS-OPS Initial Courses were conducted with 24 participants from 13 States and 14 participants from nine States, respectively. Twenty participants from ten States and 21 from eleven States, respectively, attended the second and the third Performance-Based Navigation (PBN) Procedure Design Courses. Four PBN Airspace Concept Instructor Workshops were delivered, the first one with the support of CAA Singapore. The first Required Navigation Performance Authorization Required (RNP AR) Procedure Design Course was held for 24 participants from nine States. Procedure Design on-the-job training (OJT) was provided to two procedure designers each from Indonesia, Mongolia and Sri Lanka. In cooperation with the Asian COSCAP programmes, PBN Implementation Workshops were conducted in eleven 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, Volume 1, 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 three-phase project began in September 2011 with an initial expected duration of four months and a break of one year in between the initial and the last two phases of the project.

Project achievements

Project work plan and sample documentation including aerodrome certification regulations, aerodrome inspector manuals and aerodrome manuals were prepared by an aerodrome certification/safety expert. Missions were conducted to six of the eight participating States.

Cooperative Arrangement for the Prevention of Spread of Communicable Disease through Air Travel (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, 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 is achieved by the application and implementation of 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 as well as by training personnel from participating civil aviation authorities, airports and airlines to ensure the continued implementation of these guidelines and to assist other States in the region that may join the programme. This project, which began in September 2006, was extended through December 2012.

Project achievements

A combined Steering Committee Meeting and Regional Aviation Medicine and Public Health Team meeting was planned for November 2011, but was postponed to 2012 due to flooding in Bangkok. The Global CAPSCA Technical Advisor assisted the World Health Organization (WHO) in the conduct of an airport assessment visit organized by WHO South East Asia Regional Office, and Myanmar joined the project.

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, and in-kind contributions from the Transportation Security Administration, are to ensure compliance with international conventions, ICAO Standards and Recommended Practices (SARPs), in particular Annex 17 — *Security*, and the security-related aspects 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

National Legislation and Regulations of 21 Members were evaluated, with 13 legal evaluation reports completed. Model aviation security (AVSEC) legislation and regulations were completed and distributed to CASP Members and drafting assistance was provided for five Members. AVSEC Convention ratification guidance packages were distributed as required. Nineteen National AVSEC Programmes were evaluated and assistance in revision provided as necessary. Fourteen Quality Control Programmes were developed and customized. Fifteen AVSEC Training Programmes were developed and customized. A CASP-AP working group developed an Air Traffic Service Provider Training Programme. Twelve AVSEC Instructor courses, four National Inspector courses and one Quality Control Workshop were provided. One AVSEC Legal Aspects Seminar, two Airport Security Courses and two AVSEC Seminars based on emerging threats were developed and delivered through CASP-AP resources. Four Members received assistance in drafting audit-related corrective action plans. One machine readable travel documents (MRTD) evaluation was completed, including border control assessment. Two MRTD technical evaluations were coordinated against ICAO Doc 9303 — *Machine Readable Travel Documents*. CASP-AP assisted with coordination of the Regional AVSEC Conference in New Delhi together with provision of an AVSEC seminar following the conference. The Programme further assisted with coordination of AVSEC courses at aviation security training centres and provision of four courses as requested by non-Member States and developed and coordinated the provision of one legal evaluation and training course. The Programme represented the ICAO Asia and Pacific Regional Office, Bangkok, at the AVSEC Regulators Meeting. Two AVSEC equipment evaluations were completed. A four-month

evaluation of a Member State's AVSEC structure was completed and subsequently approved by the Member State. One two-week legal training and law evaluation project was completed.

Cooperative Development of Operational Safety and Continuing Airworthiness Project — North Asia (COSCAP-NA)

Project goal

The objective 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 grants from Airbus and The Boeing Company and in-kind contributions from the European Aviation Safety Agency (EASA), the United States Federal Aviation Administration (FAA) and Transport Canada, is to enhance the safety and efficiency of air transport operations in the region. COSCAP-NA is a dedicated forum for promoting continuing dialogue, coordination and cooperation in matters related to flight safety among its participating civil aviation administrations and for creating an environment for harmonization and advancement of safety oversight policies, procedures and regulations. It provides an efficient and cost-effective method for the conduct of inspection and certification of operators, aircraft and training establishments, and for training safety oversight personnel. In addition, it promotes accident prevention through the establishment and supervision of the North Asia Regional Aviation Safety Team (NARAST). This project, which began in February 2003, was extended through January 2013.

Project achievements

NARAST met with the regional safety teams of the COSCAP South East Asia (SEA) and COSCAP South Asia (SA) as a combined Asian regional aviation safety team and identified 41 action items to implement safety enhancements and the Global Aviation Safety Plan (GASP) in North Asia. With the expansion of the ICAO Universal Safety Oversight Audit Programme (USOAP) to all safety-related areas, the COSCAP-NA programme expanded to assist Member States' implementation of ICAO SARPs in these areas. Eight training programmes were provided for 124 participants, and eight missions were carried out to support Member States. COSCAP-NA continued to work cooperatively with the other Asian COSCAPs, the FAA and Australia, to implement model operational approval procedures and related training in support of States' implementation of performance-based navigation. Member States which had successfully completed their USOAP audits assisted other Member States in preparing for their audits. Concerning the implementation of safety risk management principles and methodologies, COSCAP-NA Member States have undertaken an assessment of the need for support in the air traffic services area with regard to the implementation of safety risk management principles and methodologies and the USOAP continuous monitoring approach. COSCAP has developed and is refining an assessment protocol for conducting safety management system

evaluations which, when completed, will provide detailed guidance to Member States to assist them in the development of their own assessment methodology.

Cooperative Development of Operational Safety and Continuing Airworthiness Project — 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 grants from Airbus and The Boeing Company and in-kind contributions from the European Aviation Safety Agency (EASA), the United States Federal Aviation Administration (FAA) and Transport Canada, 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 2012.

Project achievements

Model regulations, standards and guidance material were created and used in related training programmes. In cooperation with the ICAO Flight Procedures Programme (FPP) office, the COSCAP-SA delivered three PBN operational approval courses in three Member States and facilitated three PBN implementation workshops bringing together all stakeholders within a State. Over 2 160 man-days of training were delivered in various disciplines relating to airworthiness and aerodromes. Twelve organizational audits were conducted in five States and a total of 27 technical missions undertaken to six States. The South Asia Regional Aviation Safety Team (SARAST) met with the regional safety teams of the COSCAP North Asia (NA) and COSCAP South East Asia (SEA) as a combined Asian regional aviation safety team and identified 31 action items to implement safety enhancements and the Global Aviation Safety Plan (GASP) in South East Asia. The 12th SARAST meeting was held. Following approval of the Steering Committee COSCAP-SA, the SARAST recommendations were implemented through the issuance of guidance materials (advisory bulletins and circulars) and by providing workshops and seminars. The programme continues to assist the States in the preparation of their corrective action plans and following up their subsequent implementations. The COSCAP-SA Programme Office was relocated from Colombo to Dhaka, following the decision made at the 20th Steering Committee Meeting.

Cooperative Development of Operational Safety and Continuing Airworthiness — 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 grants from Airbus and The Boeing Company and in-kind contributions from the European Aviation Safety Agency (EASA), the United States Federal Aviation Administration (FAA) and Transport Canada, are to enhance the safety and efficiency of air transport operations in the region; enhance 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

Advisory bulletins and circulars were issued, and workshops and training were provided. The South East Asia Regional Aviation Safety Team met with the safety teams of the COSCAP North Asia and COSCAP South Asia as the combined Asian Regional Aviation Safety Team, and identified 27 action items to implement safety enhancements and the Global Aviation Safety Plan (GASP) in South Asia. Training programmes were provided at central locations, as well as on site to States, when appropriate. The programme conducted twelve missions to assist Members to implement corrective actions.

EUROPE AND THE MIDDLE EAST REGION

Cooperative Arrangement for the Prevention of Spread of Communicable Disease through Air Travel (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, is, through cooperative arrangements among the participating States and their administrations, 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 commenced in May 2010 for an expected duration of two years.

Project achievements

Due to civil unrest in Egypt in early 2011, the initial CAPSCA workshop/meeting originally planned for February 2011 was postponed to December 2011. The meeting was attended by the World Health Organization (WHO), the International Air Transport Association (IATA) and the Airports Council International (ACI), as well as by more than twelve States and international organizations. Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen were invited to join the project.

Cooperative Development of Operational Safety and Continuing Airworthiness Project — 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 in training aviation security personnel. This project, which began in 2006 with an expected duration of five years, was extended through 2015.

Project achievements

The project continued to develop draft harmonized regulations on aviation safety based on the European model, where appropriate. The project participated in the Global Aviation Safety Roadmap activities, and organized seminars and workshops on the subjects of: performance-based navigation/required navigation performance-required authorization (PBN/RNP-AR) approval-certification (for 14 participants from three States and one aircraft operator); ramp inspections (for 31 participants from 13 States and three regional organizations); and continuing airworthiness requirements (Part M) (for 18 participants from two States and four aircraft operators. Several missions to participating States were carried out to

assist in the implementation of harmonized regulations. The Regulation Committee reviewed European Aviation Safety Agency (EASA) regulations and commenced implementation. Foreign air operator validation and surveillance regulations and procedures manuals were developed and provided to States. Training in safety assessment of foreign aircraft, foreign air operator validation and surveillance, and extended twin-engine operations was offered to Members.

Development of Operational Safety and Continuing Airworthiness in the Commonwealth of Independent States (CIS)

Project goal

This project is a cooperative agreement between the States of the Commonwealth of Independent States (CIS) (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan), implemented within the framework of the fund established by the CIS, Airbus, The Boeing Company, General Electric, the European Commission (EC), the Ilyushin Aviation Complex, the Interstate Aviation Committee (IAC) and the United States Federal Aviation Administration (FAA), and with the financial support of the International Financial Facility for Aviation Safety (IFFAS). 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. The project, which began in 2001 with an expected duration of six years, has been extended through 2012.

Project achievements

Issues related safety management systems and in flight operations and to the transition from a traditional cockpit to the Airbus cockpit were addressed during a workshop conducted jointly with Airbus for 101 participants from ten States and four international organizations. The Commercial Aviation Safety Team (CAST-CIS) continued to work actively on enhancing the flight safety level and conducted a four-day meeting jointly with representatives of the United States Commercial Aviation Safety Team (CAST USA) and the FAA. A seminar on flight data monitoring airline safety programmes, and the use of flight data in the Aviation Safety Information Analysis and Sharing System (ASIAS) was conducted jointly with the FAA. A Helicopter Flight Safety Conference was conducted jointly with the FAA and the International Helicopter Safety Team (IHST) for 79 participants from seven States, aircraft operators and the helicopter industry. The project assisted the regional training centre “Complang” to pass the evaluation of its programmes and training process by ICAO specialists in order to join the TRAINAIR PLUS programme and to become the first language training centre associated with this programme. Fifty high-level specialists from nine countries of the region were trained on Flight Safety Inspector Instructors

programmes and formal classroom training for flight operations and airworthiness. A two-day seminar on the Safety Assessment of Foreign Aircraft Programme (SAFA) was conducted jointly with Airbus.