

International Civil Aviation Organization

# ANNUAL REPORT OF THE COUNCIL



Doc 9921

"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 2009 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 2010, 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.

In 2009, an exceptional level of international cooperation was demonstrated by traditional and non-traditional aviation stakeholders in relation to initiatives that will undoubtedly lead to substantial improvements in the safety, security, sustainability and efficiency of the global air transport system. One such initiative was the first-ever Global Air Traffic Management Forum on Civil/Military Cooperation, where representatives from each constituency gained a much broader understanding of the other's responsibilities and constraints. At the conclusion of the Forum, there was an expressed commitment to work more closely together which should lead to a more efficient use of airspace, while still meeting operational, national defence and environment protection requirements.

ICAO also initiated the development of a new, comprehensive strategy for improving safety levels around the world and for addressing potentially critical situations such as the upcoming lack of qualified aviation professionals later this decade. Our focus involved a shift to a new paradigm of aviation safety — information-sharing and transparency — all subjects on the agenda of a High-level Safety Conference to be held in March 2010.

In terms of security, the Organization worked on the development of a new ICAO Comprehensive Aviation Security Strategy to deal with new and emerging threats to civil aviation. The attempted sabotage of a commercial flight at the end of the year emphasized the wisdom and the urgency of an approach based on sustained vigilance, proactive action and information-sharing. The incident underscored the continued vulnerability of air transport to terrorist attacks and the need for constant vigilance in tightening the security net at every contact point. Considerable energy was expended to support States in strengthening their facilitation capacity, including the migration to Machine Readable Travel Documents and meeting the deadline of April 2010 for the issuance of Machine Readable Passports.

While ICAO played a key role in coalescing the aviation and political communities around safety and security goals, it is perhaps on the overarching areas of environmental protection and climate change that the Organization was most productive in achieving tangible results in 2009.

Exemplary cooperation among all partners, under the auspices of ICAO, produced, in time for the Conference of the Parties (COP 15) of the United Nations Framework Convention on Climate Change held in Copenhagen, the first and to date only globally harmonized agreement to address climate change from a sector. This included the goal of a 2 per cent annual improvement in fuel efficiency until the year 2050; a CO<sub>2</sub> standard for aircraft; a framework for market-based

measures in international aviation; and measures to facilitate access by developing States to financial resources, technology transfer and capacity-building. Also in 2009, an ICAO global framework on the development and implementation of alternative fuels for aviation worldwide was adopted, positioning aviation to be the first sector to use sustainable alternative fuels on a global basis.

The aviation sector could serve as a model for reconciling economic development and environmental sustainability, especially at a time when the world community struggles to achieve consensus on how best to move forward in this area.

Air transport thrives on challenges, whether technical, operational or involving social policy. This Annual Report highlights the leadership of ICAO, its actions and achievements in promoting greater safety, security and sustainability in the skies of the world.

Roberto Kobeh González President of the Council

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Afghanistan Albania Algeria Andorra Angola Antigua and Barbuda Argentina Armenia Australia Austria Azerbaijan Bahamas Bahrain Bangladesh Barbados Belarus Belaium Belize Benin Bhutan Bolivia Bosnia and Herzegovina Botswana Brazil Brunei Darussalam Bulgaria Burkina Faso Burundi Cambodia Cameroon Canada Cape Verde Central African Republic Chad Chile China Colombia Comoros Congo Cook Islands Costa Rica Côte d'Ivoire Croatia Cuba Cyprus Czech Republic Democratic People's Republic of Korea Democratic Republic of the Congo Denmark Djibouti Dominican Republic Ecuador Egypt El Salvador Equatorial Guinea Eritrea Estonia Ethiopia Fiji Finland France Gabon Gambia Georgia

Germany Ghana Greece Grenada Guatemala Guinea Guinea-Bissau Guyana Haiti Honduras Hungary Iceland India Indonesia Iran (Islamic Republic of) Iraq Ireland Israel Italy Jamaica Japan Jordan Kazakhstan Kenya Kiribati Kuwait Kyrgyzstan Lao People's Democratic Republic Latvia Lebanon Lesotho Liberia Libyan Arab Jamahiriya Lithuania Luxembourg Madagascar Malawi Malaysia Maldives Mali Malta Marshall Islands Mauritania Mauritius Mexico Micronesia (Federated States of) Monaco Mongolia Montenegro Morocco Mozambique Myanmar Namibia Nauru Nepal Netherlands New Zealand Nicaragua Niger Nigeria Norway Oman Pakistan Palau

Panama Papua New Guinea Paraguay Peru Philippines Poland Portugal Qatar Republic of Korea Republic of Moldova Romania Russian Federation Rwanda Saint Kitts and Nevis Saint Lucia Saint Vincent and the Grenadines Samoa San Marino Sao Tome and Principe Saudi Arabia Senegal Serbia Seychelles Sierra Leone Singapore Slovakia Slovenia Solomon Islands Somalia South Africa Spain Sri Lanka Sudan Suriname Swaziland Sweden Switzerland Syrian Arab Republic Tájikistan Thailand The former Yugoslav Republic of Macedonia Timor-Leste Togo Tonga Trinidad and Tobago Tunisia Turkey Turkmenistan Uganda Ukraine United Arab Emirates United Kingdom United Republic of Tanzania United States Uruguay Uzbekistan Vanuatu Venezuela Viet Nam Yemen Zambia Zimbabwe



## COUNCIL MEMBER STATES

Argentina Australia Brazil Cameroon Canada China **Dominican Republic** Ecuador Egypt El Salvador France Germany Ghana Iceland India Italy Japan Malaysia

Mexico Namibia Nigeria Republic of Korea Romania **Russian Federation** Saudi Arabia Singapore South Africa Spain Switzerland Tunisia Uganda United Arab Emirates United Kingdom United States Uruguay Venezuela



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### NOTES

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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 190 Member States.



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# THE WORLD OF AIR TRANSPORT IN 2009



### THE WORLD OF AIR TRANSPORT IN 2009

#### GLOBAL AND REGIONAL ECONOMIC DEVELOPMENTS

The world economy went into a recession in 2009, caused by the continued global financial crisis. As a result, according to Global Insight's<sup>1</sup> estimates, the world gross domestic product (GDP) — expressed in real terms and calculated on the basis of Purchasing Power Parity<sup>2</sup> — declined at an estimated 0.8% (see Figure 1).



Figure 1. Development in world GDP in constant prices year-on-year changes, 2000 – 2009

The industrialized countries experienced a severe slowdown in their economies with a GDP decreasing at a rate of -3.2%. Growth in emerging markets and developing countries slowed down sharply at 2.0%, yet still above the world average but with significant regional differences.



<sup>1.</sup> Global Insight is an internationally-recognized data provider.

Measured in terms of Purchasing Power Parity (PPP), which is an economic theory linking currency exchange rates to prices paid for goods and services in any two countries.

The North American economy was badly affected, suffering a decline of about 2.5% of the United States/Canada aggregated GDP as the financial crisis continued to persist, especially during the first three quarters of the year, coupled with low levels of consumer confidence. The United States GDP contraction reflected both the residential investment and a sharp drop in consumption.

Although the fourth quarter witnessed strong performance in both exports and in the labour markets, the United States GDP registered a negative decline of 2.4%; while the Canadian economy was similarly affected (-2.6%), owing to the spillover effect of the crisis in the United States and fall in energy and commodity processes.

Africa's GDP growth decelerated at 2.7% partially in consequence to lesser contribution from oil-exporting countries due to oil prices coming down to their pre-2008 levels.

The aggregated economy of the Asia and Pacific Region grew at 3.4%, a much slower growth rate than in the previous year. Developing countries contributed significantly as their economies grew by 5.6%. The GDP of China and India showed slower growths than in the previous year, growing at rates of 8.7% and 6.6%, respectively, although activity continued to be supported by stimulus-prompted investment growth, accelerated consumption and rebounded exports. Asia's newly industrialized economies posted a 1.0% GDP decrease, while Japan's GDP dropped by 5.2%, reflecting falling exports and reduced domestic spending. In parallel, the Australian economy grew by 1.3%.

Faced with a global recession, the economy of the European Region experienced its worst performance of the decade showing an average GDP decrease rate of 4.7%. Despite the signs of expansion in the fourth quarter supported by the monetary and fiscal stimulus measures in addition to the help provided to banking sectors, the aggregate GDP of the European currency area experienced a deterioration of 4.1% in 2009. The Central and Eastern European economies contracted by approximately 3.9%, due mainly to their dependence on external demand and external borrowing to support domestic demand to stimulate growth. The GDP growth of the economies of the Commonwealth of Independent States (CIS) experienced even more severe deterioration of about 7.1%, reflecting the dependence of the predominant economies on exports of basic commodities and weak banking systems.

The countries of the Latin American and the Caribbean region also went into recession, showing a GDP decrease of 1.8%, as a result of difficult financial conditions, low oil prices and a spillover effect of the recessionary trend from the United States.

The Middle East Region's GDP increased by a mere 0.2%, with low oil prices, banking problems and weak property markets as contributing factors.

In 2009, world trade of goods and services, expressed in real terms, weakened by 12%. This compares to an increase witnessed in 2008 at 3%.



According to preliminary data for 2009 released by the United Nations World Tourism Organization (UNWTO), tourist arrivals decreased by 4.2% and were at the level of about 880 million. Africa was the only region that witnessed an increase in tourist arrivals (3.1%). All other regions registered decreases ranging from 1.7% (Asia and Pacific) to 5.6% per cent (Europe). International tourism receipts for 2009 are estimated to have decreased by around 9.6% from USD 942 billion<sup>3</sup> to USD 852 billion (see Figure 2).



Figure 2. International tourism receipts and arrivals 2000 – 2009

#### **Economic regulation**

The liberalization of international air transport regulation continued to evolve at various levels. Bilateral "open skies" air services agreements and regional liberalized agreements and arrangements covered about 32% of country-pairs with non-stop international passenger services and almost 57% of the frequencies offered.

At the bilateral level, 14 new "open skies" agreements were concluded by 18 States, bringing the total to 167 agreements involving 101 States. These agreements provide for full-market access without restrictions on designations, route rights, capacity, frequencies, code-sharing and tariffs.

At the multilateral level, the World Trade Organization (WTO) continued the second review of the General Agreement on Trade in Services (GATS) Annex on Air Transport Services. Proposals to extend the coverage of the Annex are still under review.



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

At the national level, some 16 States adopted "open skies" policies, which liberalizes foreign airlines' market access to their territories, in whole or in part, on a unilateral basis. Several States launched review processes of their air transport policies in light of the global trend toward increased liberalization.

Many States continued to provide State aid to their national airlines facing financial difficulties.

The increase in mergers and the steady expansion of alliances, involving the three global groupings (Star Alliance, oneworld, and SkyTeam), continued to attract attention from regulatory and competition authorities.

- In January, the Australian Competition and Consumer Commission (ACCC) formally denied an alliance agreement between Air New Zealand and Air Canada; in December, the ACCC approved a joint venture agreement between Virgin Blue and Delta Air Lines.
- In May, the European Commission approved the proposed acquisition of bmi British Midland by Lufthansa and also conditionally approved the proposed acquisition of Brussels Airlines by Lufthansa;
- In July, the United States Department of Transportation (DOT) approved the application for antitrust immunity for an alliance agreement among ten airlines of Star Alliance, including a joint venture agreement among Air Canada, Continental Airlines, Lufthansa and United Airlines;
- In August, the European Commission approved the proposed acquisition of Austrian Airlines by Lufthansa, subject to some remedies to reduce the competitive concerns; and
- In September, the European Commission issued a statement of objections concerning an alliance agreement among British Airways, American Airlines and Iberia.

Because of the rapid changes in airline product distribution, the necessity and effectiveness of existing computer reservation system (CRS) rules/regulations were questioned. In March, the European Commission simplified its CRS regulations with the objective of reducing booking costs and increasing travel choices for consumers and travel agents, while maintaining basic safeguards.

#### AIRLINES

The adoption of liberalization measures by States to open up the air transport sector has been a major driving force for structural transformation of the airline industry. The traditional business model of the major network airline has come under scrutiny, particularly for airlines with global reach. The low-cost carrier (LCC) phenomenon continued to expand not only domestically but regionally and even globally.



#### Scheduled operations

#### Total traffic

The total scheduled traffic carried by the airlines of the 190 Member States of ICAO amounted to approximately 2 280 million passengers and 38 million tonnes of freight. The overall passenger/freight/mail tonne-kilometres performed decreased some 4.3% over 2008, with international tonne-kilometres at about 5.9% (see Appendix 1<sup>4</sup>, Tables 1 and 2). Figure 3 shows the trend from 2000 to 2009.



**Figure 3.** Scheduled traffic tonne-kilometres performed, 2000 – 2009

The decline in passenger traffic generally kept pace with the decline in seat capacity offered. As a result, the average passenger load factor on total scheduled services (domestic and international) was at 76%, almost at the same levels observed in 2008. The weight load factor declined from 63% to 62.4%, mainly due to poor freight carriage during the 2009 economic slowdown (see Appendix 1, Table 3).

In terms of total traffic volume (passengers/freight/mail) by region, 30% was carried by North American airlines, 29% by Asia and Pacific airlines, 27% by European airlines, 7% by Middle East airlines, 4% by Latin American and Caribbean airlines and 2% by African airlines (see Appendix 1, Table 4).



<sup>4.</sup> The Appendices to this report are available exclusively at www.icao.int/annualreports.

Data for individual countries (Appendix 1, Tables 5 and 6) indicate that about 41% of the total volume of scheduled passenger, freight and mail traffic was accounted for by the airlines of the United States, China (excluding the traffic from the Special Administrative Regions of Hong Kong and Macao) and Germany, with totals of approximately 28%, 8% and 5%, respectively. On international services, some 29% of all traffic was carried by the airlines of the United States, Germany and the United Kingdom, with approximately 15%, 7% and 6%, respectively.

#### International passenger traffic

Growth rates for international passenger traffic declined from 4.2% in 2008 to -3.3% in 2009. The breakdown in terms of percentage of total traffic carried and of growth rates for carriers is as follows: Europe, 41 and -3.4; Asia and Pacific, 25 and -6.5; North America, 17 and -5; Middle East, 10 and 9.7; Latin America and the Caribbean, 4 and -2.5; and Africa, 3 and -3.0.

#### Domestic passenger traffic

On the domestic front, traffic growth decline was arrested from -2% in 2008 to 0.4% in 2009. North American carriers, which account for almost 55% of world domestic traffic, declined by 3.4%. This is a significant decline on a large-scale basis and drives down the overall growth for the world. Asia and Pacific carriers accounting for approximately 30% of domestic traffic grew by a significant 9.6% compared to around 3.9% achieved in 2008. For European carriers, which account for 8% of world domestic traffic, traffic declined by 7.4%, while Latin American/Caribbean carriers, which account for approximately 5% of world traffic, grew by 5.2%.

#### Total freight traffic

The impact of a slowing economy was felt most severely in the growth of freight traffic. Total scheduled freight traffic declined by approximately 10% in 2009 compared to 1.3% in the previous year. Freight tonnes carried worldwide on scheduled services declined to approximately 37.8 million tonnes compared with 40.7 million tonnes in 2008, while the pace of decline slipped to approximately -7%, from -3%.

#### Summary of traffic decline in 2009

The decline in passenger and freight traffic growth was primarily due to the reduction in economic growth across all regions of the world. The trend in real Gross Domestic Product (GDP) significantly changed from a growth of 2.9% in 2008 to an estimated decline of 0.8% for 2009, impacting traffic across all regions. The decline in passenger traffic for 2009 would have been greater than 2% had it not been for the significant improvements in traffic growth observed in the latter part of the year. This was most pronounced in the case of domestic traffic growth which improved significantly in the emerging economies of Asia and



Latin America in the latter part of 2009. The arrest of declining domestic traffic growth rates in the largest domestic market, i.e. North America, also contributed to the severity of total passenger traffic decline being limited to around 2% in 2009.

#### Traffic outlook for 2010

After a decline of about 0.8% in 2009, the GDP is expected to recover in 2010 and is projected to grow at 3.9%; accordingly, ICAO has forecast the world traffic to grow at about 3.3% in the same year.

#### Non-scheduled commercial operations

It is estimated that, in 2009, the total international non-scheduled passengerkilometres decreased by about 11% compared with 2008, with the nonscheduled share of overall international air passenger traffic decreasing some 1 percentage point to about 7% (see Figure 4 and Appendix 1, Table 7). Domestic non-scheduled passenger traffic represents about 6% of total nonscheduled passenger traffic and around 1% of total domestic passenger traffic worldwide.



Figure 4. International non-scheduled traffic passenger-kilometres performed, 2000 – 2009



#### Airport operations

In 2009, the 25 largest airports in the world handled some 1 217 million passengers, according to preliminary estimates (Appendix 1, Table 8). During the same period, the airports concerned (12 of which are located in North America, 5 in Europe, 7 in Asia and 1 in the Middle East) also handled some 11.5 million air transport movements.

#### Finances

Due to variations in the definition of fiscal year applicable by airlines across the world, it has been impossible to estimate the financial results of the global air transport industry for the year 2009 at the time of the release of this Report. However, reporting (through Form EF) received so far and preliminary estimations may indicate that the operating result could be at the range of USD -4.1 billion.

With respect to 2008 (Appendix 1, Table 9), the operating revenues of scheduled airlines of ICAO Member States are estimated at some USD 563.6 billion and operating expenses for the same airlines at USD 572.5 billion giving an operating loss of 1.6% of operating revenues. This follows an operating profit of 3.9 per cent in 2007. Operating revenues per tonne-kilometre were at some 97.6 cents (89 cents in 2007), while operating expenses per available tonne-kilometre were at some 62.6 cents (54.2 cents in 2007).

#### Aircraft

Between 2000 and 2009, the number of commercial air transport aircraft in service increased by about 18 per cent from 20 456 to 24 110 (excluding aircraft with a maximum take-off mass of less than 9 000 kg). Within these totals turbojet aircraft numbers increased by about 27 per cent, from 16 004 to 20 275, over the same period (Appendix 1, Table 10).

In 2009, 635 jet aircraft were ordered (compared with 1 750 in 2008) and 1 227 delivered (compared with 1 153 in 2008). The backlog of unfilled orders at the end of 2009 was 7 548 aircraft compared with 8 143 at the end of 2008.

#### ACTS OF UNLAWFUL INTERFERENCE

During the year, 23 acts of unlawful interference were recorded. These consisted of eight acts of unlawful seizure or attempted seizure, one facility attack, one inflight attack, two cases of attempted sabotage, and 11 other acts. These acts are included in the annual statistics to assist in the analysis of trends and developments (see Figure 5 and Appendix 1, Table 11).



The continued downturn in air traffic created a challenge to many airport operators. During 2009, both aeronautical and non-aeronautical revenues decreased as a result of fewer flights with fewer passengers. At the same time, costs increased as a result of the credit crisis. Airports around the world responded with various measures, including cutting costs, reconsidering capital investments, freezing recruitment and reducing the number of staff. Many airports did not increase their charges and rates or limited planned increases, while some even lowered their charges on a temporary basis. Rating agencies downgraded a number of private airports. Nevertheless, airport infrastructure upgrading remained a priority. According to the Airports Council International, capital investment at airports worldwide for new and expanded infrastructure reached an estimated USD 46 billion in 2009.

Little activity was reported in 2009 with respect to privatization or changes in ownership of airports. In the United Kingdom, airport operator BAA announced the sale of Gatwick Airport for USD 2.33 billion. BAA appealed against a ruling by the United Kingdom Competition Commission that it should sell three of its airports (Gatwick, Stansted and one of either Edinburgh or Glasgow). One major Australian airport operator offered to sell its 19.9% stake in Tokyo's Haneda Airport. A New Zealand-based infrastructure investment company sold its 3.87% stake in Auckland International Airport. In the United States, a USD 2.5 billion first-of-its-kind deal to privatize Chicago-Midway Airport failed amid the global credit crisis, as private investors could not raise the required funds.

On the regulatory side, the following developments took place:

In February, the European Council of Ministers formally approved the new European Union (EU) Directive on Airport Charges. The Directive applies to all European airports with annual traffic of more than five million passengers and must be implemented by all EU Member States before March 2011. The Directive provides a clear legal framework for setting airport charges and, once implemented, the new legislation will promote better dialogue between airports and users. It will ensure transparency, non-discrimination and appropriate consultation between users and airports under an independent regulator in each Member State.



In March, the government of the United Kingdom published a consultation document on proposals to reform the economic regulation of airports. The first major change is to make the protection of passengers, and not of airlines, the primary focus of the regulator. The consumer representation for air passengers is given formal legal basis, transferring the functions and expertise of the Air Transport Users Council to a multi-mode consumer body for air, rail and bus passengers. A new licensing regime for airports is proposed to bring airport regulations closer in line with the regulations of other utilities. A new appeals procedure is also being proposed to improve on the existing scheme that has a mid-review role for the Competition Commission but no right of appeal.

#### **AIR NAVIGATION SERVICES**

As with airports, the financial situation of air navigation services providers (ANSPs) also deteriorated in 2009 as a result of the drop in air traffic. ANSPs around the world went through cost-cutting exercises and delayed capital investments for non-essential projects. Many ANSPs did not increase their air navigation services charges and some lowered their charges on a temporary basis.

The following developments took place:

- In March, the European Parliament adopted the second package of Single European Sky (SES II). The legislation also received political endorsement from the Transport Council. The adoption of SES II took place after detailed discussions between the European Commission, European Parliament and the Council. It represents a significant step forward in improving the performance of the air traffic management (ATM) system in Europe by providing binding targets in the key areas of safety, network capacity, flight efficiency, cost-effectiveness and environmental sustainability. It also places renewed emphasis on Functional Airspace Blocks (FABs) for a more rational organization of the European airspace, across national borders.
- In September, the Radio Technical Commission for Aeronautics (RTCA) Next Generation (NextGen) Mid-term Implementation Task Force submitted its final report to the United States Federal Aviation Administration (FAA). Over 300 aviation community specialists from more than 110 organizations participated in the work of the Task Force and reached consensus on the recommended NextGen operational improvements for air traffic control, to be implemented between 2009 and 2018. Through the NextGen Air Transportation System Implementation Plan, air traffic control will be transformed from a ground-based system of radars to a satellite-based system.









# THE ICAO BUSINESS PLAN



## THE ICAO BUSINESS PLAN

#### Performance management framework

The second year of implementation of ICAO's Business Plan for the 2008-2010 triennium introduced the concept of performance reporting in order to enable the Senior Management Group and the ICAO Council to ascertain the status of the ICAO programmes.

In this context, the very first performance report on the Business Plan was provided to Council in May 2009. The Key Performance Indicators included in the Business Plan were all evaluated based on the SMART (Specific, Measurable, Achievable, Realistic and Time-bound) criteria and work progress was measured for the year 2008.

ICAO is in the process of developing a web-based tool to automate real time performance reports and dashboards. The ICAO Knowledge Shared Network (IKSN) was developed as the pilot soft application in the Air Navigation Bureau to track and report on the activities under the Safety and Efficiency Strategic Objectives focusing on the related five Strategic Results. The Key Performance Indicators for the remaining 10 Strategic Results were evaluated using an Excelbased streamlined dash-boarding system. ICAO is expected to continue to progress towards full implementation of IKSN to all Strategic Objectives during 2010.

The overall performance of the Organization was rated at 93 per cent. The performance was managed by exception which means that only the underperforming programmes and related corrective actions were reported to the Council.

Lessons learned from the performance report will be used in preparation for the next triennium. These include:

- a simplified approach with fewer layers, strategic objectives and Key Performance Indicators;
- ownership and control of funds should rest with the Champions; and
- there would be a rolling plan to ensure that new projects could be taken up and others dropped during the Business Plan and Budget implementation.





#### STRATEGIC OBJECTIVE A

Enhance global civil aviation safety through the following measures:

Identify and monitor existing types of safety risks to civil aviation and develop and implement an effective and relevant global response to emerging risks.

Ensure the timely implementation of ICAO provisions by continuously monitoring the progress toward compliance by States.

Conduct aviation safety oversight audits to identify deficiencies and encourage their resolution by States.

Develop global remedial plans that target the root causes of deficiencies.

Assist States to resolve deficiencies through regional remedial plans and the establishment of safety oversight organizations at the regional or subregional level.

Encourage the exchange of information between States to promote mutual confidence in the level of aviation safety between States and accelerate the improvement of safety oversight.

Promote the timely resolution of safety-critical items identified by Planning and Implementation Regional Groups (PIRGs).

Support the implementation of safety management systems across all safety-related disciplines in all States.

Assist States to improve safety through technical cooperation programmes and by making critical needs known to donors and financial organizations.

### SAFETY

The focus in 2009 was set on a results-based approach to safety, with a strong emphasis on the measurement of results. Significant progress was made in the collection and analysis of data as well as in the development of tools and systems for use by States. Existing programmes and activities were adapted to this proactive strategy to further improve safety levels around the world.

#### Universal Safety Oversight Audit Programme (USOAP)

The purpose of the USOAP is to assess the capability of a State to perform effective oversight of its own civil aviation system. Audits highlight shortcomings in oversight capabilities, while corrective action plans based on audit findings facilitate greater compliance with ICAO Standards and Recommended Practices (SARPs) — ultimately enhancing safety. In 2004, the USOAP was expanded to cover the safety-related provisions contained in all safety-related Annexes to the *Convention on International Civil Aviation*. Together with national aviation legislation and organization, USOAP's comprehensive systems approach (CSA) provides a complete picture of a State's civil aviation system.

During 2009, 32 Member States and the Hong Kong and Macao Special Administrative Regions (SARs) of China were audited under the CSA. By the end of 2009, ICAO had completed 145 CSA audits and the two audits of SARs as part of its six-year audit cycle ending in 2010. Figure 6 shows the worldwide level of effective implementation of the eight critical elements of a safety oversight system, as identified during the CSA audits.

The 36th Session of the Assembly, held in September 2007, directed the Council of ICAO, inter alia, to make appropriate changes to the USOAP and to consider various options for its continuation. A Continuous Monitoring Approach (CMA) Study Group was established to study the future of the USOAP beyond 2010. The Council examined the study group's conclusions and directed the Secretary General to begin developing the methodology and tools required to implement a CMA, including detailed guidance to States. The Council also directed the Secretary General to conduct targeted ICAO Coordinated Validation Missions (ICVMs) during the transition phase. Other intervention activities that would normally be found under a CMA are to be phased in gradually, with pilot projects conducted in selected States.

A CMA will involve the establishment of a system to monitor the safety oversight capability of Member States on an ongoing basis and with a harmonized and consistent approach towards assessing the safety level of aviation activities and evaluating safety management capabilities. A CMA will require the establishment of a centralized database and online reporting system to properly manage



information received from different sources, also on an ongoing basis. Using these methods, the USOAP will be capable of providing tailored audits and identifying when other types of intervention, such as operational or technical assistance, are required. Continuous feedback from States will be necessary under the CMA in order for ICAO to determine the type of intervention strategy required in each case. Such intervention activities will include both targeted and full-scale audits of a State's aviation safety oversight capability.

During 2009, ICAO continued to promote awareness of the CSA through regional seminars and workshops. Two such seminars were conducted in Bucharest and in Jeddah.

Member States and regional organizations continue to provide valuable support to ICAO through the secondment of experts on a long- or short-term basis, to participate in the activities of the USOAP. In 2009, eight experts were seconded on a long-term basis — one each from Austria, Cuba, France, Malaysia, the Republic of Korea, and three from the United States.



Figure 6. Degree of implementation of the critical elements of a safety oversight system (%)



#### State Safety Programme (SSP)

State Safety Programme (SSP) training was initiated in March with a total of 34 courses delivered, including 25 to Member States, five regional training courses, three in-house SSP training courses at Headquarters, and the first SSP instructor's training course also at Headquarters.

Continued support was provided to the AFI Comprehensive Implementation Programme (ACIP) on the delivery of Safety Management Systems (SMS), SSP and the European Co-ordination Centre for Aviation Incident Reporting Systems (ECCAIRS) training.

#### Safety Management Systems (SMS)

The second edition of the *Safety Management Manual (SMM)* (Doc 9859) was published in English, Chinese, French and Spanish and will be published in the other official languages when translated. Further development and revision continues on SMS and SSP guidance material and related training content.

Focus on both States and stakeholders continued with 19 SMS training courses held around the world. Some were conducted for various aviation organizations, including the Euromed Aviation Project and the United Nations World Food Programme (WFP).

#### AFI Comprehensive Implementation Programme (ACIP)

There was considerable activity under three focus areas of the ACIP.

Focus Area One — Enabling States to establish and maintain a sustainable safety oversight system (infrastructure and capacity building)

Three global aviation safety roadmap (GASR) workshops and 40 gap analyses were conducted in the AFI Region. In addition, a framework for the establishment of the Banjul Accord Group (BAG) member States' Aviation Safety Oversight Organization (BAGASOO) and the Accident Investigation Agency (BAGAIA) was developed and agreements were signed at ICAO Headquarters by the Ministers responsible for aviation to establish the two regional organizations by January 2010.

Consultation with the Economic and Monetary Union of Western Africa (UEMOA) member States and Mauritania started in November with the goal of developing frameworks for a regional safety oversight organization and regional accident investigation agency. An agreement was signed with the Eastern African Community Partner States (Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania) for the provision of similar support to enhance the effectiveness of the Civil Aviation Safety and Security Oversight Agency (CASSOA). Under the said agreement, due to commence in early 2010, the



development of a framework for the establishment of an independent regional accident investigation agency would also be undertaken.

Focus Area Two — Assisting States in resolving identified deficiencies within a reasonable time frame

Regional Office Safety Teams (ROSTs) were established in the Eastern and Southern African (ESAF) Office and the Western and Central African (WACAF) Office to ensure continued implementation of the Comprehensive Regional Implementation Plan for Aviation Safety in Africa (AFI Plan), to provide support to States in the effort to resolve identified deficiencies and to monitor and follow-up implementation projects. In addition, close to 450 participants attended seminars, workshops and training courses throughout the region in English and French on aircraft airworthiness, establishment and management of a State safety oversight system, air traffic management and safety, aerodrome certification and safety, ECCAIRS, aviation medicine and the transport of dangerous goods by air.

Action to implement Special Africa-Indian Ocean Regional Air Navigation (SP AFI RAN) Recommendation 5/8 — Safety strategies in the AFI Region — was undertaken and a conference and a meeting of African aviation training institutes were held in Niamey and Johannesburg. The meeting in Johannesburg established a Training Experts Working Group (TEWG) that is currently implementing the AFI RAN recommendations, including the establishment of a database on training needs and capacity in Africa.

Focus Area Three — Enhancing the aviation safety culture of African aviation service providers

Regular and train-the-trainer courses for SSP and SMS instructors were held. A course was also developed on integrated safety management systems incorporating modules from SSP, SMS and safety oversight courses, including gap-analysis methodology. Generic regional safety programme workshops directed at groups of three to six States within a subregion were also developed.

#### Aviation safety tools

#### ICAO European/North Atlantic (EUR/NAT) Regional Database (ICARD)

Significant progress was made during the year on the ICARD project which is designed to provide a platform allowing proper assignment of ICAO unique identifiers, such as the five-letter name code (5LNC) and route designators. ICARD is an initiative of the international civil aviation community with ICAO, the European Organisation for the Safety of Air Navigation (EUROCONTROL) and the United States Federal Aviation Administration (FAA) as the main stakeholders.



#### Enhanced GIS services

A set of geographic information system (GIS) services in support of air navigation activities was further enhanced with the development of a flight information region (FIR) service that enables visual access to the latest edition of the flight information regions in each ICAO region.

#### International aircraft information system

Development of the ICAO International Aircraft Information System (IIAIS) commenced. This system will contain pertinent information on all aircraft habitually involved in international civil aviation, including registration, ownership and control, in accordance with Article 21 of the *Convention on International Civil Aviation* (Doc 7300). This system will be available only to Member States for identifying ownership and control of an aircraft; it will have the capability to establish unique aircraft identifiers based on two combined fields of data regardless of current registration marks; and it will provide a clear picture of an aircraft's history.

#### Integrated Safety Data Collection and Analysis System (ISDCAS)

The ISDCAS project was initiated in October. The objective of this project is to create a comprehensive analytical tool capable of leveraging multiple data resources for the purpose of conducting multifaceted safety analyses, providing ICAO with the means to identify emerging safety issues, associated contributing factors as well as proactive mitigation measures.

# European Co-ordination Centre for Aviation Incident Reporting Systems (ECCAIRS) safety data training courses

Six ICAO safety data management training courses — ECCAIRS end-user training and the ECCAIRS technical training — were delivered to Member States.

#### Accident investigation and prevention

Amendment 12-A to Annex 13 became applicable on 19 November and addresses, inter alia, the inclusion of runway incursion severity A as a serious incident in Annex 13. This will facilitate a global approach to data collection as well as the identification of contributing factors.

#### Next Generation of Aviation Professionals (NGAP)

Close collaboration on the International Air Transport Association (IATA) Training and Qualification Initiative (ITQI) continued, specifically on the development of guidance for inclusion in the *Procedures for Air Navigation Services* — *Training* 



(PANS-TRG, Doc 9868) on competency-based training and assessment of maintenance personnel, evidence-based training, and instructor and examiner qualifications. The NGAP Task Force was established in May to complement and expand the work undertaken in ITQI. The task force, consisting of participants from regulatory organizations, industry, international associations, universities and training providers, will address three areas: human resource planning, training and learning methodologies, and mobilization of the next generation.

#### Dangerous goods

The twenty-second meeting of the Dangerous Goods Panel developed guidance for States on the circumstances under which approvals and exemptions should be granted, while continuing to observe the importance of preventing delays when transporting humanitarian aid and other emergency relief by air. New material was developed which would clarify the information a State is expected to provide with respect to the designated authority responsible for the implementation of Annex 18. The lack of such information frequently results in lengthy delays, especially when approval for exemptions is sought from other States.

The panel spent considerable time on the subject of lithium batteries. A need for improved enforcement, oversight and outreach in order to reduce the number of non-compliant shipments was identified as was the need for improved incident reporting. As a result, it was agreed a letter would be sent to all States highlighting the issues and detailing measures which could be adopted to raise awareness.

The final report of the meeting is available on the ICAO public website at: <u>http://www.icao.int/anb/FLS/DangerousGoods/dgp/DGP22/Report</u>.

#### Halon replacement

Over the past 45 years, halogenated hydrocarbons (halons) have been essentially the only fire extinguishing agents used in civil transport aircraft. Halon, however, is an ozone-depleting agent and global warming chemical, and its production has been banned by international agreement. Although halon has been banned, aviation has been granted an exemption because of its unique operational and fire safety requirements. Based on Assembly Resolution A36-12, Halon Replacement, States were urged to advise their aircraft manufacturers, airlines, chemical suppliers, and fire extinguishing companies to move forward at a faster rate in implementing halon alternatives in engines and auxiliary power units, hand-held extinguishers and lavatories, and to carry out investigations of additional halon replacements for engines/auxiliary power units, and cargo compartments. In preparation for the 37th Session of the Assembly in 2010, a review with States and international organizations is under way to update the time frames in A36-12.


### Aerodrome certification

Three ICAO seminars/workshops were held in ICAO regions to assist States in implementing the requirements in Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations* on the certification of aerodromes, an effective tool to ensure aerodrome safety. They took place in Casablanca in the Africa-Indian Ocean (AFI) Region, in Hong Kong (SAR) in the Asia and Pacific (ASIA/PAC) Region, and in Castries in the Caribbean and South American (CAR/SAM) Region. All three were well attended and proved to be successful.

### Aviation meteorology

A focal point, based in London, United Kingdom, for international air navigation was designated to receive information on radioactive clouds from the International Atomic Energy Agency (IAEA), for onward distribution to area control centres (ACCs) concerned. This is a major simplification of the current system and will enable the timely receipt of this vital information.

Regional volcanic ash tests were conducted in all ICAO regions to prepare international civil aviation for volcanic eruptions which, should they occur, could block huge areas of airspace with little advance warning.

### Publication of guidance material

### Oversight of operators

The fifth edition of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) was published in English and will be published in the other official languages when translated. It provides guidance material for the oversight of national operators, including certification and surveillance. It now also contains material for the surveillance of foreign operators, including guidance on actions to be taken as a result of findings during ramp inspections. Additional guidance is also provided regarding leasing agreements.

### Flight simulation training devices

The Manual of Criteria for the Qualification of Flight Simulation Training Devices, Volume I — Aeroplanes (Doc 9625) was published. Volume I of this manual provides States, manufacturers and operators with guidance material covering the criteria for the initial and periodic qualification and evaluation of aeroplane flight simulation training devices (FSTDs). Seven standard examples of FSTDs are defined to support identified training types. The manual also describes the criteria determination process for an FSTD tailored to specific training needs. This determination process is constructed using a comprehensive list of training tasks, with associated requirements for FSTD features.





### Language proficiency requirements

Guidance material to assist States with the implementation of the language provision requirements was delivered in the form of two circulars: *Language Testing Criteria for Global Harmonization* (Cir 318) provides guidance in processes for testing candidates in accordance with the ICAO language proficiency requirements as well as on recommended criteria for the development or selection of aviation language testing programmes; and *Guidelines for Aviation English Training Programmes* (Cir 323), produced in partnership with the International Civil Aviation English Association (ICAEA), arises from a request from various authorities, operators and service providers for more detailed guidance on English language training in order to effectively implement the language proficiency requirements in Annex 1 — *Personnel Licensing*.

### Technical cooperation projects and activities

There were 33 national and nine regional technical cooperation projects contributing to further improving aviation safety around the world.

Support also came from the recruitment of 72 international experts who provided assistance to national civil aviation administrations in a broad range of areas, such as accident investigation and prevention, airworthiness certification, maintenance, engineering (avionics) and inspection, flight operations, personnel licensing, safety management systems, aerodrome safety and certification, rescue and fire fighting, airfield lighting, aircraft operations, airline operations and maintenance, aviation medicine, civil aviation administration and master planning, and human resource development.

The ICAO Fellowship Programme provided training to 106 nationals, primarily in the fields of accident investigation and prevention, aircraft airworthiness, certification and surveillance, flight operations, rescue and firefighting and safety management systems, as well as flight simulator and inspector (personnel licensing, flight operations and airworthiness) training.

In addition, 1 791 individuals received in-country training by ICAO experts in one or more of the above-mentioned areas through seminars and workshops carried out under the auspices of regional technical cooperation projects.

Training that ensures the proper use of new equipment is another means of strengthening human resources. ICAO was involved in contracts for major equipment, including airport lighting systems and auxiliary equipment, rescue and firefighting vehicles and other equipment. The procurement process for these items included training for 33 nationals in various countries.

The Technical Co-operation Bureau is currently implementing ten Cooperative Development of Operational Safety and Continuing Airworthiness Projects (COSCAP) with the participation of 106 States in the Asia and Pacific, Europe,



Middle East, Africa and the Americas Regions. The objective of COSCAP is to enhance the safety oversight capabilities of participating States, facilitate a coordinated approach to shared technical expertise and provide training to national inspectors, all through the establishment of a subregional safety oversight structure designed to reduce costs to individual States.



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### STRATEGIC OBJECTIVE B

Enhance the security of global civil aviation through the following measures:

Identify and monitor existing types of security threats to civil aviation and develop and implement an effective global and relevant response to emerging threats.

Ensure the timely implementation of ICAO provisions by continuously monitoring the progress toward compliance by States.

Conduct aviation security audits to identify deficiencies and encourage their resolution by States.

Develop, adopt and promote new or amended measures to improve security for air travellers worldwide while promoting efficient border-crossing procedures.

Develop and maintain aviation security training packages and e-learning.

Encourage the exchange of information between States to promote mutual confidence in the level of aviation security between States.

Assist States in the training of all categories of personnel involved in implementing aviation security measures and strategies and, where appropriate, the certification of such personnel.

Assist States in addressing security-related deficiencies through the aviation security mechanism and technical cooperation programmes.

# SECURITY

### Countering new and emerging threats to aviation security

During its twentieth meeting in March/April, the Aviation Security (AVSEC) Panel established a number of new working groups to address issues of particular significance to the improvement of aviation security worldwide.

Recognizing the need to update the ICAO aviation security strategy, the Panel created the Working Group on Developing the ICAO Comprehensive Aviation Security Strategy (ICASS). ICASS, as the strategy is provisionally known, is considered necessary to focus limited resources on the critical aspects of aviation security that warrant a higher level of attention and urgency. Meeting in Singapore in October, the Working Group developed aviation security focus areas or priorities which, together with action plans to meet related objectives, could form the basis of the strategy for the next two triennia.

By year's end, the proposed strategy placed emphasis on addressing new and existing threats to civil aviation, as well as promoting various initiatives intended to enhance security around the world, including improved information sharing among Member States and the development of an appropriate security culture among all stakeholders.

In light of the key role played by technology in the overall effectiveness and efficiency of aviation security systems, the Panel also established a Working Group on Technology to provide advice on security equipment and related matters. The Working Group is required, among other things, to review the need for technical specifications for security equipment, taking into account the impact on operations, health and safety, and affordability.

Other items raised during the twentieth meeting included the issue of new and emerging threats to civil aviation, the development of guidance material and training programmes for States, and the amendment of Annex 17 — *Security*. The security of air cargo was also discussed, in particular the adoption of the supply chain approach to cargo security, and the wider implementation of the "one-stop security" concept as one way to avoid duplication and increase the efficiency of aviation security processes.

With regard specifically to supply chain security, a Secretariat Study Group composed of members of the AVSEC Panel and the Facilitation Panel was established to examine the possibility of developing security Standards by which air cargo operators, agents, airports and ground handlers might be certified as authorized entities or regulated agents.



Finally, the AVSEC Panel recommended re-establishing the Secretariat Study Group on the Carriage and Screening of Liquids, Gels and Aerosols, with a request that it develop new recommendations on the screening of LAGs. In light of the Panel's conclusion that a global approach was required to develop multiple technological solutions for the screening of LAGs at airports, a workshop was convened in Brussels in November to exchange information on possible new procedures and detection technologies under development. The workshop examined the likely consequences of various screening technologies on airport operations and facilitation, mindful of the eventual need to remove volumetric restrictions in a coordinated manner. The workshop developed conclusions for consideration by the Study Group on the Carriage and Screening of LAGs.

### Amendment 21 to Annex 9 — Facilitation

In March, the Council adopted Amendment 21 to Annex 9, with changes recommended by the fifth meeting of the Facilitation Panel (FALP/5). New text was added to Chapter 6 (International airports — facilities and services for traffic) and it addresses, amongst other things, the role of privatized airports in meeting the requirements of border inspection agencies, measures to prevent the spread of disease by air travel, and matters relating to modern inspection systems. In Chapter 4 (Entry and departure of cargo and other articles), new SARPs seek international uniformity and focus on mitigating entry/exit delays and denials in the transport of radioactive material by air, particularly material used in medical applications.

In Chapter 3 (Entry and departure of persons and their baggage), SARPs relating to Advance Passenger Information (API) systems were enhanced in order to align existing and emerging passenger data exchange regimes with existing global best practices. Today, many Member States have either implemented, or are in the process of implementing API programmes. In several instances, however, API programmes being introduced failed to consider existing international best practices as agreed by the World Customs Organization (WCO), ICAO and the International Air Transport Association (IATA). The changes to Annex 9 are designed to alleviate the difficulties that airlines are currently facing with non-uniform API regimes.

In addition, a FALP Working Group on Advance Passenger Information/Passenger Name Record (API/PNR) was established to examine the expansion of API systems to general aviation and the recent introduction of socalled "inter-active" API ("i-API") systems by some States. The Working Group will also revise, as appropriate, the ICAO *Guidelines on Passenger Name Record (PNR) Data*, published as Circular 309, in light of recent global developments on this issue.

Another Working Group was set up to examine and revise existing ICAO guidelines relating to Passengers with Disabilities (PWD), published as Circular 274, in light of expanding developments in this area in many States. The idea is that this Group will consolidate and harmonize the guidelines, as



appropriate, with any guidance material on the subject developed by other relevant international organizations.

### Aviation security audits

The ICAO Universal Security Audit Programme (USAP) was launched in June 2002 for the conduct of universal, mandatory and regular audits of the aviation security systems of all ICAO Member States. The audits identify deficiencies in each State's aviation security system and propose recommendations for their resolution.

The initial cycle of USAP audits was completed in December 2007 and a programme of follow-up visits concluded in 2009. The follow-up visits were initiated in 2005 to assess improvements made by States in implementing ICAO audit recommendations as identified in States' corrective action plans. A total of 172 follow-up visits were completed, with 30 taking place in 2009. They confirmed that, overall, States made progress in the implementation of their corrective action plans.

A second cycle of audits was launched in January 2008 to focus on the effective implementation of the critical elements of an aviation security oversight system. The expanded audits cover relevant security-related provisions of Annex 9 (*Facilitation*), including the verification of processes related to controls on the creation and issuance of travel documents. In 2009, ICAO completed second-cycle audits of 33 States. Figure 7 shows the global level results for all 55 second-cycle audits conducted as of December 2009, as they relate to the implementation of the critical elements.

In addition, the aviation security inspection system of the European Commission (EC) was assessed under the USAP in February by an ICAO team, in accordance with the Memorandum of Cooperation signed between ICAO and the EC in September 2008 and the related Memorandum of Understanding between ICAO and the EC, agreed to in February 2009. ICAO auditors joined EC inspections of European Union airports as observers.

A USAP seminar to familiarize State officials with the tools and methodology used in the preparation, conduct and reporting of audits under the second cycle was conducted in San José, Costa Rica in 2009, and a USAP Auditor Training Course was carried out in Casablanca.

Member States and regional organizations continue to provide valuable support to ICAO through the secondment of experts, on a long- or short-term basis, to participate in the activities of the USAP. In 2009, three experts were seconded to the Aviation Security Audit Section on a long-term basis, from France, Switzerland and the United States.







### Machine Readable Travel Documents (MRTD) Programme

The Technical Advisory Group on Machine Readable Travel Documents (TAG/MRTD) met at ICAO Headquarters in December 2009. The TAG confirmed an expanding agenda and approved new work items including breeder documents and civil registries, machine-assisted security verification and temporary travel documents. Inter-agency and cross-border data sharing, including developing electronic immigration clearances, have also been recognized as important items on the TAG agenda. The meeting also approved work related to Logical Data Structure, Supplemental Access Control, transliteration of Arabic letters, PKD and td1 format travel documents. The TAG welcomed intensified and expanding capacity-building efforts, including strategic plans and information collection and assessment tools. In addition, the ICAO Secretary General announced at the TAG meeting that *Machine Readable Travel Documents* (Doc 9303) would be available for free download from the MRTD website, to promote the universal implementation of MRTD specifications.

During 2009, TAG/MRTD assisted the Secretariat with promoting travel document security by issuing much needed guidance material, in particular the *Guidelines on eMRTD and Passenger Facilitation; the Guide for Assessing Security Standards for Handling and Issuance of Travel Documents;* and *Guidance to Border Control Authorities on Handling ePassports that Fail to Read.* The advisory group also prepared new specifications for the ICAO Public Key Directory (PKD).



TAG/MRTD's New Technology Working Group (NTWG) continued to develop and maintain MRTD standards and specifications. Among other things, the NTWG worked on test methodologies for MRTDs and eMRTDs and undertook a study on identifying a global standard for the next generation of MRTDs.

The Secretariat, together with the new Implementation and Capacity Building Working Group (ICBWG) of the TAG/MRTD, provided assistance to numerous States and international organizations on matters related to MRTDs. The main thrust of capacity-building efforts continued to be assistance projects for States unable to meet the 1 April 2010 deadline for the introduction of ICAO-compliant MRPs. The focus was mainly on security vulnerabilities related to breeder documents (birth certificates, national ID cards, etc.) required to apply for travel documents, and the introduction of automated migrant processing systems equipped with passport readers.

Specific activities in 2009 included projects proposed for the Republic of Kiribati and the Pacific region, vocational training for African States, and the introduction of eMRTDs in Namibia. Assistance was also provided to the United Nations High Commissioner for Refugees (UNHCR) concerning the development of a Refugee Convention travel document, and to the UN Laissez-Passer Office with regard to the issuance of an ICAO-compliant eMRTD. More generally, the Secretariat identified a strategy for developing and implementing an MRTD training initiative for border control and passport issuance officers.

Progress in providing assistance to States was only possible through intensified efforts in conjunction with other bodies, including UN entities such as the Counter-Terrorism Committee Executive Directorate (UNCTED). Other partners have included the International Organization for Standardization (ISO), Interpol, Airports Council International (ACI), International Air Transport Association (IATA) and, more recently, the Organization of American States' (OAS) Secretariat of the Inter-American Committee against Terrorism (CICTE), the Organization for Security and Co-operation in Europe (OSCE) and the International Organization for Migration (IOM).

Moreover, several workshops and training sessions were organized by ICAO in coordination and in conjunction with international partners. These included a regional seminar on MRTDs, biometrics and security standards in Abuja, Nigeria in April. The event was the first of its kind for the Africa-Indian Ocean (AFI) Region and drew over 300 participants from 25 States. Hosted by Nigeria and co-sponsored by the UNCTED, the seminar served to assist States with the implementation of ICAO-Standard MRPs by the 2010 deadline, while generating revenue for ICAO through sales of exhibitor space. Participating international partners included the IOM and the OSCE.

The MRTD Symposium held in September reinforced the Programme's role as an essential tool in combating trans-border movement by terrorists and transborder crime. It was also the occasion to launch ICAO's MRTD Vision 2020 initiative, a consultative process designed to gather and analyse the needs of



Member States in relation to travel document and border control in the future. The annual event has become a leading activity in the field of travel documents worldwide, as well as an important source of ancillary revenues for ICAO. This year's Symposium attracted 517 participants from 73 Member States and 10 international organizations and featured interventions by the Secretary General of Interpol, the Director of the UNCTED and other senior representatives from States and various international and regional organizations.

To improve access to information, the MRTD website was updated, providing Member States and users, including TAG/MRTD working groups, with extended reference material and powerful tools. The Secretariat also developed an on-line directory of service and product vendors (http://mrtd.icao.int), another revenue generating initiative.

Since its establishment in March 2007, the number of participants in ICAO's Public Key Directory (PKD) has increased to 16 Member States, with more expected to join. The PKD Board reached its maximum number of fifteen Members — Australia, Canada, China, France, Germany, India, Japan, Kazakhstan, Korea (Republic of), New Zealand, Nigeria, Singapore, Switzerland, United Kingdom and United States.

### Implementation Support and Development (ISD) Programme

In keeping with Assembly Resolution A36-20 — Consolidated statement of continuing ICAO policies related to the safeguarding of international civil aviation against acts of unlawful interference, the operational mandate of ISD aviation security activities can be appreciated from the perspective of its two main components: assistance to States and aviation security training.

ISD provides assistance to Member States in support of their efforts to rectify deficiencies identified under USAP and to comply with ICAO SARPs in Annex 17. In order to ensure the effective implementation of SARPs, all concerned stakeholders must be involved and committed — a fundamental condition for successful improvements. This requires greater participation by donor States and concerned stakeholders. For that reason, ISD upgraded and improved the ICAO Database of Assistance Projects (IDAP) for safety and security, and is promoting the system to increase participation.

The upgraded IDAP was established as a web-based database for aviation safety and security assistance projects and to coordinate related information. The database helps identify complementary or overlapping activities so that donor States and stakeholders may better leverage their individual and collective resources. In coordinating assistance, the IDAP gives the ISD Section the ability to proactively match partners with projects, share information regarding possible technical assistance needs or requirements and post proposals/strategies that are in need of technical or financial resources.



In April, ISD convened a Regional AVSEC seminar in Hong Kong, China. This seminar was the first of a series of regional seminars intended to promote sustainable development in aviation security and to encourage an exchange of views on developments in the region, including inter-regional cooperation amongst States. Holding the seminar in Hong Kong focussed the attention of the regional aviation community on the importance of enhancing and promoting a viable and sustainable aviation security system in the Asia and Pacific Region. The seminar concluded that, as various assistance initiatives are taking place in the region, all assistance and support should give priority to addressing the USAP findings and should be coordinated with the ICAO Regional Office in Bangkok. Such coordination would prevent duplication of effort, misuse of resources and ensure consistency with ICAO SARPs.

In June, the ICAO/Canada Security Awareness Training Programme (Phase II), under Transport Canada's Department of Foreign Affairs and International Trade (DFAIT) Counter-Terrorism Capacity Building Programme, was successfully concluded. This assistance programme for the Americas was designed to assist South American (SAM), North American, Central American and Caribbean (NACC) States to improve aviation security systems and implement Annex 17 SARPs. In total, 656 specialists received aviation security training in the NACC and SAM Regions, represented by thirty-eight States and three international/regional organizations.

Aviation security training continues to be a major function of ISD. Activities include the development and maintenance of training material, in cooperation with ICAO's Aviation Security and Facilitation Policy Section (SFP), and the support and oversight of 18 Aviation Security Training Centres (ASTCs) worldwide.

Of the nine Aviation Security Training Packages (ASTPs) currently available, four were revised in 2009: Basic, Cargo, Instructors and National Inspectors. The others are: Airline, Crisis Management, Exercise, Management, and Supervisors. Additionally, five aviation security assistance workshops continued to be taught within the ASTC network and directly in States: the National Civil Aviation Security Programme (NCASP), National Quality Control Programme (NQCP), National Civil Aviation Sceurity Training Programme (NCASTP) and Airport Security Programme (ASP).

In October, the annual ASTC Directors Meeting was held in Port of Spain, Trinidad and Tobago, to strengthen and ensure the effective communication between the Centres and ICAO. Best practices and experiences were exchanged between training centres, personal contacts made and maintained as well as further cooperation strengthened. A joint ASTC policy and understanding about the future direction was discussed and agreed upon. A document defining the terms of reference for receiving and maintaining endorsement as an ICAO ASTC was accepted, including a new evaluation form which mirrors the terms of reference. Currently, ASTCs are undergoing an evaluation process, whereby



ICAO staff conducts the evaluation based on set criteria. These evaluations are expected to be completed by January 2011.

In order to improve the standards and maintain the quality of AVSEC Instructors, an AVSEC Instructors Recertification Programme was developed by ISD. This programme focussed on current instructing practices and techniques for presenting ICAO ASTPs and training workshops and defined the roles and responsibilities of the Instructor and ICAO Aviation Security Training Centres (ASTCs). The programme was completed in July 2009 resulting in the recertification of 145 aviation security instructors.

The AVSEC Professional Management Course was developed in collaboration with the John Molson School of Business at Concordia University. The goal of the programme is to provide aviation security management personnel with new management skills and a greater understanding of the application of the *Convention on International Civil Aviation* (Doc 7300) and the Standards and Recommended Practices contained in Annex 17 to the Convention and the *Security Manual for Safeguarding Civil Aviation against Acts of Unlawful Interference* (Doc 8973 — Restricted). As of November 2009, 227 participants, representing 59 States, have successfully graduated from this course.

### Technical cooperation projects and initiatives

Two regional and eight national technical cooperation projects worldwide helped civil aviation administrations and international airports improve their security systems.

Under the Technical Cooperation Programme, ICAO recruited 15 international aviation security experts to assist in the review and development of national aviation security programmes, airport security programmes and aviation security regulations; provide classroom and on-the-job training to local aviation security inspectors and instructors; and assist in the implementation of machine readable travel document systems and security equipment.

Fellowship training on cargo and airport security was offered to eight aviation security inspectors and managers, while 23 participated in seminars and workshops on aviation security-related subjects.

The implementation of the Cooperative Aviation Security Programme (CASP) project in the Asia and Pacific Region continued with the participation of 24 States. The ultimate objective of CASP is the establishment of a regional structure that promotes cooperation and coordination in aviation security matters and encourages the exchange of information among aviation security authorities, as well as greater harmonization of aviation security measures and the training of personnel. The project, representing a cost-effective solution to common aviation security deficiencies on a regional basis, resulted in the improved compliance of participating States and their international airports with international security



requirements and ICAO SARPs. The COSCAP project in the Gulf States included an aviation security component with the recruitment of a security expert.

Major security purchases involved baggage X-ray inspection systems and equipment for airports. Related training by equipment suppliers benefited 160 national personnel of two States.

# ENVIRONMENTAL PROTECTION



### STRATEGIC OBJECTIVE C

Minimize the adverse environmental effects of global civil aviation activity, notably aircraft noise and aircraft engine emissions, through the following measures:

Develop, adopt and promote new or amended measures to:

- limit or reduce the number of people affected by significant aircraft noise;
- limit or reduce the impact of aircraft engine emissions on local air quality; and
- limit or reduce the impact of aviation greenhouse gas emissions on the global climate.

Cooperate with other international bodies and in particular the UN Framework Convention on Climate Change (UNFCCC) in addressing aviation's contribution to global climate change.

# ENVIRONMENTAL PROTECTION

2009 was a pivotal year for the Organization in aggressively exercising its global leadership on environmental issues, particularly greenhouse gas emissions relating to climate change.

### High-level Meeting on International Aviation and Climate Change

The 36th Session of the Assembly in 2007 had requested the Council to establish a Group on International Aviation and Climate Change (GIACC) to develop and submit to the Council an aggressive ICAO Programme of Action on International Aviation and Climate Change, with the technical support of the Organization's Committee on Aviation Environmental Protection (CAEP). The Programme of Action was to be reviewed at an appropriate time, taking into account the fifteenth meeting of the Conference of the Parties (COP 15) to the UNFCCC in December 2009.

Created in January 2008, the GIACC consisted of 15 senior government officials representing all ICAO regions, with equitable participation from developing and developed States. It was to be based on consensus, reflecting the shared vision and will of all Member States.

Following the GIACC's third and fourth meetings in February and May 2009 respectively, in June the Programme of Action was submitted and subsequently fully accepted by the Council as a positive development to limit or reduce aviation's climate impact.

The High-level Meeting on International Aviation and Climate Change was convened from 7 to 9 October to review the Programme of Action, reiterating the strong resolve of Member States for ICAO to take the lead on aviation and climate change. The meeting approved a Declaration and Recommendations regarding further work by ICAO, and requested that the outcome serve as the basis for ICAO's input to COP 15.

The outcome of the High-level Meeting includes a global goal of 2 per cent annual improvement in fuel efficiency until the year 2050 and further work on medium- and long-term goals, including exploring the feasibility of more ambitious goals, including carbon-neutral growth and emissions reductions, taking into account the special circumstances and respective capabilities of developing countries and the sustainable growth of the industry. Such fuel efficiency improvements or other emission reduction goals would not attribute specific obligations to individual States.



The Meeting also agreed on the development of a global CO<sub>2</sub> standard for aircraft; a framework for market-based measures in international aviation; and measures to facilitate access by developing States to financial resources, technology transfer and capacity-building.

The Declaration and Recommendations reflect the collective will of Member States to act in a coherent and cooperative manner in addressing international aviation and climate change. In November, the Council fully accepted the outcome of the High-level Meeting, including its Declaration and Recommendations, and decided on further action for deliberation at the 37th Session of the Assembly and beyond.

# Workshop and ICAO Conference on Aviation and Alternative Fuels (CAAF), on alternative fuels for aviation

Another significant set of meetings dealt with alternative fuels for aviation. A workshop on the subject held from 10 to 12 February clearly established that alternative fuels would be a key component of any long-range strategy to substantially reduce aviation  $CO_2$  emissions.

The workshop set the stage for a Conference on Aviation and Alternative Fuels (CAAF), hosted by the Government of Brazil and held in Rio de Janeiro from 16 to 19 November. The CAAF adopted a global framework on the development and implementation of alternative fuels for aviation worldwide. The dynamic, webbased document will serve as a global platform for the sharing of information, best practices and future initiatives by ICAO Member States and the air transport industry. It will be located on the ICAO website.

The CAAF also adopted a Declaration and related recommendations for presentation at COP 15 and at the 37th Session of the Assembly. One of the recommendations calls for ICAO to organize a meeting of States, financial institutions, fuel producers, feedstock producers, aircraft manufacturers, and operators to consider the critical issues of cost and financing infrastructure projects dedicated to aviation alternative fuels and incentives to overcome initial market hurdles.

### Cooperation with other United Nations (UN) bodies

In December 2007, COP 13 had launched the "Bali Road Map", a comprehensive programme to enable the development of a future climate change agreement. ICAO and the UNFCCC had established two parallel streams of activity, to culminate in December 2009. Accordingly, ICAO ensured coordination of its activities with those of the UNFCCC.

In 2009, at each of the UNFCCC meetings, ICAO provided briefings and written submissions on ICAO developments regarding quantification, mitigation and policies to address international aviation emissions, and informed the UNFCCC



of challenges regarding international aviation emissions data collection. The outcome of the High-level Meeting and the CAAF was provided to COP 15 in Copenhagen, as input for a global framework to address GHG emissions from international aviation.

In essence, the aviation community under the leadership of ICAO produced the first and, at the time, the only globally harmonized agreement to address climate change from a sector. The fact that a deal on international aviation and maritime fuels unfortunately was not reached in Copenhagen made aviation's unified position even more relevant.

Additionally, ICAO continued to cooperate closely with other United Nations bodies such as IPCC, IMO and UNEP in the assessment of aviation's environmental effects and policy-making.

IPCC initiated the preparation of its Fifth Assessment Report to be completed in 2014, and ICAO worked with them to enhance scientific understanding of aviation emissions' impact on global climate, including the effects of aviation's non- $CO_2$  emissions and the life-cycle assessment on the use of alternative fuels for aviation.

IMO's Marine Environment Protection Committee continued its work on a package of technical, operational and market-based measures to reduce emissions from international shipping, and ICAO continued to exchange information and discuss strategy with IMO to explore synergies between these international transport sectors.

In addition, the UN Secretary-General convened a High-level Summit on Climate Change in September 2009, the biggest ever gathering of political leaders to discuss climate change, in preparation for COP 15. ICAO's Secretary General attended the summit and met with the UN Secretary-General as well as with the heads of the UNFCCC, UNEP, IMO and WMO.

### Committee on Aviation Environmental Protection (CAEP)

In 2009, CAEP focused its energies on preparing for its eighth meeting (CAEP/8), set by the Council for 1 to 12 February 2010 with, as an agenda:

- 1. Assessment of the present and future impact of aircraft noise and emissions;
- 2. Technical proposals relating to aircraft engine emissions;
- 3. Market-based measures relating to aircraft engine emissions;
- 4. Proposals relating to aircraft noise; and
- 5. Future work of CAEP.



### Aircraft engine emissions

CAEP pursued its study of options to limit or reduce emissions from aviation, focussing on technical, operational, and market-based measures. It continued to make progress on establishing medium- and long-term  $NO_x$  and fuel burn goals relating to technological development of airframe and engines, as well as those goals relating to operational measures such as the improvement of air traffic management.

CAEP also continued its technical work on mitigation measures to reduce aviation emissions, including the increase of current  $NO_x$  emissions stringency and the development of a global  $CO_2$  standard for aircraft.

Building upon ICAO guidance on *Operational Opportunities to Minimize Fuel Use* and *Reduce Emissions* (Circular 303), which identifies and reviews various operational opportunities and techniques for minimizing fuel consumption and hence  $CO_2$  emissions in civil aviation operations, CAEP worked on new guidance material to be presented for approval at CAEP/8.

Regarding market-based measures to reduce aviation CO<sub>2</sub> emissions, CAEP continued to study the linkage of open emissions trading systems involving aviation, emphasizing increased harmonization of features and processes as a way to facilitate linkage of various schemes towards the creation of a global scheme. CAEP also developed a study on the potential for carbon offset measures to mitigate the impact of aviation on climate change, recognizing its potential for implementation in the short term. Both studies will be presented for approval at CAEP/8.

### Aircraft noise

A key development in CAEP was the publication of the new *Environmental Technical Manual* (Doc 9501), Volume I, *Procedures for the Noise Certification of Aircraft*. This manual was extensively revised to consolidate all incremental changes over the years and to align its structure with Annex 16 — *Environmental Protection*, Volume I — *Aircraft Noise*. Several aspects related to the applicability language in Annex 16, Volume I, were also addressed to ensure a consistent process in all States.

CAEP continued to study options to limit or reduce the number of people exposed to significant aircraft noise, focussing on technical and operational options. The noise technical working group prepared a report on current state-of-the-art aeroplane noise technology. It contains a review and analysis of certification noise levels for subsonic jet and heavy propeller-driven aeroplanes. An independent expert panel established medium- (2018) and long-term (2028) goals for reducing noise through new aircraft and engine technologies. These goals will be presented to CAEP/8 for approval and the detailed report will be published by ICAO. As for the two studies, they will be key inputs in considering noise stringency scenarios in the next CAEP cycle.



A study of the environmental impacts of curfews in one region on origin/destination in other regions was completed. The study focused on the issue of night time noise with case studies for city pairs between Europe and South Africa and India. The analysis was based on recent flight data of the study of airports and the direct flights to and from European cities with curfews or night time flight restrictions. CAEP/8 is expected to consider the findings of the study and the direction of future work in this regard.

CAEP also continued work on quantifying noise benefits from operational measures, such as noise abatement departure procedures and continuous descent operations. The studies continue to be coordinated with ICAO panels focused on operational safety and capacity.

### Data and modelling

Responding to the need for global environmental trends, the CAEP Modelling and Databases Task Force (MODTF) evaluated 13 models and 12 databases in the areas of noise, local air quality, greenhouse gas emissions, and economics.

CAEP's MODTF computed global trends for 2006, 2016, 2026 and 2036 for a number of scenarios over a range of aircraft technology and operational improvements, as follows: (1) noise trends presented in terms of population exposed; (2) NO<sub>x</sub> and particulate matter (PM) trends for below 3 000 ft above airport altitude; (3) NO<sub>x</sub> trends above 3 000 ft; and (4) fuel burn and fuel efficiency trends for full flight.

Thanks to the use of common input data for each of the models, it became possible to assess the effects of noise, local air quality, and greenhouse gas emissions in a harmonized manner, a first step toward understanding the interdependencies of those effects on the environment.

### **ICAO Carbon Emissions Calculator**

In June 2008, ICAO posted on its website an impartial, user-friendly and peerreviewed Carbon Emissions Calculator that estimates the  $CO_2$  emissions from air travel, for use in offset programs. The methodology applies the best publicly available industry data to account for various factors such as aircraft types, route specific data, passenger load factors and cargo carried.

In April 2009, ICAO's Carbon Calculator was adopted by the United Nations in support of its Climate Neutral UN Initiative, which calls for all agencies and units of the UN system to determine their total carbon emissions. ICAO provided training to more than 40 UN organizations in the use of the Calculator. The Organization also collaborated with the UNEP EMG on the carbon neutrality project and the Carbon Calculator.



During the EMG meeting held in September 2009, it was agreed that ICAO, UNEP, and the IPCC would continue to work on the issue of accounting for the effects of greenhouse gas emissions other than  $CO_2$  from aviation.

ICAO will continue to improve the Calculator through updates to the methodology and the use of new data sources as they become publicly available, to enhance even further its official and globally-recognized instrument.

### ICAO's carbon inventory

ICAO's Focal Point for Carbon Neutrality estimated the carbon footprint of the ICAO Secretariat using UNEP's UN GHG Calculator and the ICAO Carbon Emissions Calculator. Preliminary analysis, using a 2008 baseline, points to approximately 5 000 metric tonnes of carbon dioxide. The two largest contributors were air travel (45%) and emissions from purchased electricity (36%).

### Outreach and public awareness activities

ICAO prepared a logotype under the theme "Act Global" as well as promotional material including a video, posters and brochures to showcase ICAO's action and achievements in the field of the environment and climate change.

### Voluntary contributions and staffing

France and Italy continued their support with Junior Professional Officers.

### Technical cooperation projects and initiatives

Three technical cooperation projects in environmental protection were implemented.

Two international experts were recruited to support one civil aviation administration and one international airport in the evaluation and improvement of their environment planning and in the review of the existing wildlife management plan and inspection regime.

In-country training on environmental and quality management was provided to 11 national personnel of one State.

Bird hazard equipment was procured for one State.



# EFFICIENCY



### STRATEGIC OBJECTIVE D

Enhance the efficiency of aviation operations by addressing issues that limit the efficient development of global civil aviation through the following measures:

Develop, coordinate and implement air navigation plans that reduce operational unit costs, facilitate increased traffic (including persons and goods), and optimize the use of existing and emerging technologies.

Study trends, co-ordinate planning and develop guidance for States that supports the sustainable development of international civil aviation.

Develop guidance, facilitate and assist States in the process of liberalizing the economic regulation of international air transport, with appropriate safeguards.

Assist States to improve efficiency of aviation operations through technical cooperation programmes.

# EFFICIENCY

The importance of efficient aviation operations is being felt now more than ever. Expected traffic growth and the need to reduce the impact of the air transport sector on the environment mean that each efficiency improvement achieved is a contribution to the well-being of both the aviation sector and the global community. In 2009, a number of significant developments further contributed to improved efficiency.

### Flight Plan Implementation Tracking System (FITS)

The approval in 2009 of Amendment 1 to the *Procedures for Air Navigation Services* — *Air Traffic Management* (PANS-ATM, Doc 4444) introduced the new ICAO flight plan format that will take effect 15 November 2012. It is designed to match the needs of aircraft with advanced capabilities and the evolving requirements of automated ATM systems.

The transition to the new flight plan format, including associated requirements, may present challenges for States and organizations involved in the processing of flight plans. ICAO developed guidance material in the form of a State letter to help air navigation services providers (ANSPs) and airspace users achieve a coordinated and successful global transition by the applicability date. ICAO developed FITS (<u>http://www2.icao.int/en/FITS/Pages/home.aspx</u>) to complement information provided by ANSPs and to serve as a reference to airspace users in monitoring the transition plans of States and the status of implementation of Amendment 1 to the PANS-ATM in States and flight information regions (FIRs).

### Civil/military cooperation

A Global Air Traffic Management Forum on Civil/Military Cooperation was held in Montréal from 19 to 21 October to foster awareness among civil and military airspace users of the need to improve civil/military cooperation and coordination. The goal is to achieve optimum use of airspace by all users and to effectively meet operational requirements of air transportation, national defence and environmental conservation. It was organized in partnership with all main interested stakeholders, including the Air Traffic Control Association (ATCA), the Civil Air Navigation Services Organisation (CANSO), the European Organisation for the Safety of Air Navigation (EUROCONTROL), the International Air Transport Association (IATA), the North Atlantic Treaty Organization (NATO), and the Unmanned Vehicle Systems (UVS) International.

A clear consensus emerged that the aviation community, civil as well as military, has the need and the desire to work together towards a cooperative and



collaborative environment based on commitment and trust. An action plan was outlined in which ICAO would play a key role as the international platform for discussion and progress on civil/military cooperation. This plan would include the development of an ICAO manual on the subject, raising the subject at the 37th Session of the Assembly, and promoting civil/military cooperation in the regions through the planning and implementation regional groups (PIRGs). In addition, all parties would work together on ATM security issues. Finally, the Forum agreed that ICAO should convene a second global event at an appropriate time to measure progress in civil/military cooperation.

### Wake turbulence

A Wake Turbulence Study Group (WTSG) was established to assist the Secretariat in updating existing provisions in the PANS-ATM (Doc 4444) related to wake turbulence separation minima and aircraft categories, and to assess future work in other wake turbulence-related matters.

### Performance-based navigation (PBN) implementation

All ICAO regions completed their regional plans for implementation of performance-based navigation and started executing the plans. Through the combined efforts of the ICAO PBN Programme, the International Air Transport Association (IATA), the South American Region Implementation Group, the Asia Cooperative Development of Operational Safety and Continuing Airworthiness Project (COSCAP) and the Global PBN Task Force, preparations have been under way to facilitate implementation of PBN. Activities include the development of ICAO guidance material for PBN operational approvals and a series of workshops over the next two years based on the material. These workshops will be coordinated with PBN airspace workshops which are being developed by the United States Federal Aviation Administration (FAA) and the European Organisation for the Safety of Air Navigation (EUROCONTROL), as well as with Go Team implementation visits developed and coordinated by IATA and the Global PBN Task Force.

### AFI Tactical Action Group (TAG) activities

The AFI TAG officially began its activities in 2009 following endorsement by the Special AFI RAN Meeting in November 2008. The TAG held a total of 13 teleconferences, which served to review operational errors and deviations in African airspace above Flight Level 280. Identified issues were reviewed and follow-up actions were assigned. A very good rate of response to TAG queries was noted from most AFI States.

TAG follow-up and database maintenance activities have so far been carried out by volunteers from among the teleconference participants. Plans for funding and a more permanent solution in the form of Internet teleconferencing software as



well as a dedicated person to carry out TAG follow-up activities between teleconferences are being investigated.

### Next Generation (NextGen)/Single European Sky ATM Research (SESAR)

In October, ICAO hosted the first of a series of Standards Round-table meetings, with the purpose of working with EUROCONTROL, the FAA and international standards-making bodies to develop a programme for meeting the standardization needs of the NextGen and SESAR Programmes, while ensuring global harmonization. Attending the meeting were representatives from Aeronautical Radio, Inc. (ARINC), the European Aviation Safety Agency (EASA), the European Telecommunication Standards Institute (ETSI), European Organisation for Civil Aviation Equipment (EUROCAE), EUROCONTROL, FAA, Radio Technical Commission for Aeronautics (RTCA) Inc, the Society of Automotive Engineers (SAE) Intl., and the SESAR Joint Undertaking.

During the meeting, it was agreed that in order to meet the standardization needs, the following was essential: improved coordination; a common understanding of the required standards, both in general and in support of emerging aviation systems; and methods to bridge any divisions that may arise. One product of the meeting was a mechanism to achieve all of these. In addition, the meeting identified twenty key areas for which standards development would be needed and developed a preliminary schedule for the first of these areas, which is operations using 4D trajectories. This will involve the international standardization bodies with ICAO assuming a coordinating role.

# Management and update of air traffic services (ATS) message handling system (AMHS) address information

The transition from the aging aeronautical fixed telecommunication network (AFTN) to AMHS commenced. States have been advised (State letter AN 7/49.1-09/34) that in the short- to medium-term, ICAO will utilize the European ATS Messaging Management Centre (AMC), provided by EUROCONTROL, to coordinate the allocation and management of AMHS addresses. AMC address information will be displayed on the website of the Aeronautical Communications Panel.

### **Navigation systems**

A thorough review of Standards and Recommended Practices (SARPs) for conventional radio navigation aids was conducted to amend obsolete or ambiguous provisions to align them with current requirements and best practices. This resulted in Amendment 84 to Annex 10 — *Aeronautical Telecommunications* which became applicable on 19 November 2009.



A further amendment to Annex 10, enabling the introduction of global navigation satellite system (GNSS) Category I approach and landing operations over wide areas without additional ground radio navigation aids, is also being introduced. Implementation of the proposed amendment will bring significant benefits to safety and efficiency, both in the short term for some of the areas served by satellite-based augmentation systems (SBAS), and in the longer term, on a global basis, when additional satellite constellations will be available.

# Radio Frequency Spectrum — ICAO Position for the International Telecommunication Union (ITU) World Radiocommunication Conference 2012 (WRC-12)

The ICAO Position for the next International Telecommunication Union (ITU) World Radiocommunication Conference 2012 (WRC-12) was approved by the ICAO Council in June and disseminated to all States. In accordance with Assembly Resolution A36-25 (Support of the ICAO policy on radio frequency spectrum matters), ICAO urges States and international organizations to firmly support the ICAO Position at the WRC-12, as well as in regional and international activities conducted in preparation for the Conference.

The continuous increase in air traffic movements, as well as the need for new and emerging applications, such as unmanned aircraft systems, place greater demands on aviation regulatory and air traffic management mechanisms, resulting in increasing requirements for frequency assignments and spectrum allocations.

While these requirements can, to some extent, be met through improved spectral efficiency of new radio systems, it is inevitable that existing allocations may need to be broadened or additional aviation spectrum allocations sought to meet demand. This trend, however, is by no means unique to aviation. Aviation has to compete with a number of other industries that are actively seeking an expansion of the spectrum available to them; an ever increasing pressure on existing allocations for safety and regularity of flight, and on the danger of interference to the services using those allocations.

### Situational awareness

A number of accomplishments were made in the area of situational awareness: Standards and Recommended Practices (SARPs) and guidance material for multilateration systems (MLAT) were finalized, offering an alternative, costeffective solution to air traffic surveillance; an initial set of provisions enabling the harmonious development of airborne surveillance applications (based on automatic dependent surveillance-broadcast (ADS-B) IN) was also finalized; a proposed amendment to airborne collision avoidance system (ACAS) SARPs to improve effectiveness through enhanced collision avoidance logic was developed; and a new manual entitled *Aeronautical Surveillance Manual* (Doc 9924), consolidating valid and updated material from two existing manuals with



guidance material on various new surveillance techniques and related issues, was completed for publication.

### Aeronautical meteorology

A successful pilot project was undertaken in coordination with the World Meteorological Organization (WMO) for the exchange of aeronautical meteorological (MET) information in XML code form. This is an important milestone towards the implementation of the "weather information exchange model", which is based on the XML and is part of the NextGen/SESAR programmes.

Changes to MET provisions, expected to result in substantial cost savings, were developed to enable: the use of fully automatic observing systems (without human intervention) at international aerodromes; the elimination of routine voice reports containing MET information in place since the 1940s, in view of the explosive growth of automated reporting; and, the use of fully automatic global, en-route state-of-the-art forecasts for thunderstorms, turbulence and icing, on a trial basis, to eventually replace the costly human-produced forecasts.

### Aeronautical information management (AIM)

Efforts during the year focused on the transition from the current paper-based provision of aeronautical information to the use of digital data (aeronautical information services (AIS) to AIM). This major task will be implemented over the next ten years. The first steps included the strengthening of provisions related to quality management, an important enabler for the future environment, and the introduction of provisions allowing the use of digital aeronautical information in parallel with paper-based products.

### Technical cooperation projects and activities

There were 43 national and eight regional technical cooperation projects dealing with the efficiency of air transport operations.

There were 193 international experts recruited to provide advice in a number of areas, including global navigation satellite systems; radars and navigation aids; ground support equipment; aerodrome (architecture, engineering and civil works), air routes and ground aids; communications; air traffic management; aeronautical meteorology; airport planning, development and operation; airport engineering; privatization of airports and air navigation systems, search and rescue and air transport economics.

Fellowship training of 231 nationals was carried out in aeronautical information services, aeronautical meteorological services, air traffic management, air transport, search and rescue, aeronautical communications, navigation aids

maintenance and airport engineering and maintenance. In-country group training through seminars was given in some of these areas. In addition, 329 nationals were trained in-country by ICAO experts.

Training related to the planning, development or modernization of airports and air navigation facilities was carried out within the procurement component of the projects. The equipment and services procured were aerodrome ground support equipment, such as baggage handling systems and closed circuit television (CCTV) systems. Other procurements included navigation aids, communications systems, surveillance systems, air traffic management systems and meteorological equipment, as well as airport terminal building-related civil works, equipment and services, aircraft instruments, inspection and overhaul services and an aerodrome perimeter fence. Related training, including maintenance, factory and on-the-job training, was given to 119 nationals from the various regions.

Regional projects aimed at the modernization of air navigation systems for the transition to a modern CNS/ATM environment, including the management of a digital telecommunication systems network, were implemented in the Caribbean and South American Region. These projects were effective in promoting interregional cooperation and coordination and ensuring compliance with the Global Plan, regional air navigation plans and applicable ICAO SARPs. This involved the procurement of equipment, provision of expertise and specialized training to technical and operational personnel in the air navigation fields.

A regional project aimed at identifying deficiencies in the field of aeronautical meteorology and proposing corrective measures was implemented in the Africa Region with the participation of nine States, as a follow-up to a recommendation of the AFI Planning and Implementation Regional Group (APIRG). A cooperative agreement between eight South Pacific States for the development of sustainable meteorological services implemented in close consultation with the World Meteorological Organization (WMO) was completed in 2009.



# CONTINUITY



### STRATEGIC OBJECTIVE E

Identify and manage threats to the continuity of air navigation through the following measures:

Assist States to resolve disagreements that create impediments to air navigation.

Respond quickly and positively to mitigate the effect of natural or human events that may disrupt air navigation.

Cooperate with other international organizations to prevent the spread of disease by air travellers.

## CONTINUITY

### Dealing with the Influenza A (H1N1) virus

During 2009, the World Health Organization (WHO) declared the first human pandemic in over 40 years, caused by the spread amongst human populations of the Influenza A (H1N1) virus. Although the WHO advised against imposing travel restrictions as a result of the influenza outbreak, some States reduced travel to and from the most affected areas. In response, the ICAO Council adopted on 19 May a declaration emphasizing that aviation-related measures taken by Member States should be proportionate, appropriate, non-discriminatory and limited to health risks.

At the time of the outbreak, an adjustment of priorities enabled ICAO to step up its collaborative work with the WHO and industry partners to ensure that all guidance material was updated with information relevant to the current public health emergency. Some documents were released earlier than scheduled and regular news updates, electronic bulletins and media interviews enabled aviation stakeholders and the public to be kept informed of ICAO's actions as well as those of its partners.

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

As the intensity of interest surrounding the pandemic subsided, attention was refocused on the CAPSCA project, a joint Air Navigation Bureau/Technical Cooperation Bureau initiative that commenced in 2006, funded in part by States but largely by three grants, administered by UNDP, from the UN Central Fund for Influenza Action. During the year, CAPSCA held management and technical meetings concerning pandemic preparedness in the three regions in which the project operates: Asia/Pacific, Africa and the Americas.

The CAPSCA project provides for training of local officers, evaluations of international airports (with findings used to highlight areas in which States can improve their preparedness plans) and implementation of a harmonized regional and international approach to preparedness planning in the aviation sector. States within the three regions mentioned above who had not yet joined the CAPSCA project were encouraged to do so and to participate in its ongoing development work.



### Standards and Recommended Practices (SARPs) and guidance material

A number of SARPs relevant to the management of communicable disease in the aviation sector became applicable during 2009. In Annex 6 (*Operation of Aircraft*), changes were made regarding recommended on-board medical supplies and Annexes 11 (*Air Traffic Services*) and 14 (*Aerodromes*) were adjusted so that public health emergencies are now included as items to be addressed in emergency plans. The *Procedures for Air Navigation Services* — *Air Traffic Management* (PANS-ATM, Doc 4444) now contains detailed communication procedures for pilots-in-command who are required to notify the public health authority at destination of a suspected case of communicable disease on their aircraft. These follow and support several modifications made in 2007 to Annex 9 (*Facilitation*). ICAO also makes available related guidance material to States.

### Technical cooperation projects and initiatives

The continuity of air operations was supported by the implementation of 12 regional and 37 national projects.

The 70 international experts recruited provided assistance to civil aviation administrations in the determination of training and technological requirements. This included the development or implementation of TRAINAIR projects, the development of procedures and guidance material, training in the prevention of the spread of communicable diseases, and the provision of language training.

Fellowship training of 19 national personnel concentrated on general civil aviation management, crew resources management, language training and training technologies. In-country training of 417 nationals was conducted by ICAO experts, in particular in the area of public health and emergency planning.

Equipment and services subcontracted included language laboratory systems and information technology equipment and services; training in the quality of service was given to 75 nationals of one country.

On a regional basis, the Cooperative Arrangement for Preventing the Spread of Communicable Disease through Air Travel (CAPSCA) project, which aims at reducing the risk of spreading Avian Influenza and similar communicable diseases at major international airports, is currently being implemented in the Asia and Pacific and Africa Regions with the participation of ten and nine countries, respectively.


# **RULE OF LAW**



### STRATEGIC OBJECTIVE F

Maintain, develop and update international air law in light of evolving needs of the international civil aviation community by the following measures:

Prepare international air law instruments that support ICAO's Strategic Objectives and provide a forum to States to negotiate such instruments.

Encourage States to ratify international air law instruments.

Provide services for registration of aeronautical agreements and depositary functions for international air law instruments.

Provide mechanisms for the settlement of civil aviation disputes.

Provide model legislation for States.

### RULE OF LAW

At the sixth meeting of its 188th Session, the Council, in consideration of C-WP/13414 — Report on the 34th Session of the Legal Committee, approved the General Work Programme of the Legal Committee as follows:

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

The Diplomatic Conference was held from 20 April to 2 May 2009 at ICAO Headquarters in Montreal and adopted the texts of the following:

- a) Convention on Compensation for Damage to Third Parties, Resulting from Acts of Unlawful Interference Involving Aircraft; and
- b) Convention on Compensation for Damage Caused by Aircraft to Third Parties.

The Convention on Compensation for Damage to Third Parties, Resulting from Acts of Unlawful Interference Involving Aircraft establishes an International Civil Aviation Compensation Fund (International Fund). The Conference also adopted a Resolution on the need to undertake preparatory work regarding the International Fund, to ensure that it is operational by the time the Convention enters into force. In this regard, the Conference decided to set up, pending the entry into force of the Convention, a Preparatory Commission on the establishment of the International Fund. A preliminary meeting of the Commission was held in Montreal from 8 to 10 September 2009 and additional meetings are planned.

The Convention on Compensation for Damage to Third Parties, Resulting from Acts of Unlawful Interference Involving Aircraft, has been signed by seven States. The Convention on Compensation for Damage Caused by Aircraft to Third Parties has been signed by nine States.

2) Acts or offences of concern to the international aviation community and not covered by existing air law instruments.

The Legal Committee held its 34th Session from 9 to 17 September 2009. It considered the two draft texts prepared by its Special Sub-Committee for amending The Hague Convention of 1970 and the Montreal Convention of 1971. It concluded that the two draft texts, as amended by the Legal Committee, are sufficiently mature to be submitted to the Council and, eventually, to a diplomatic conference for further action.



 Consideration, with regard to CNS/ATM systems including global navigation satellite systems (GNSS) and the regional multinational organisms, of the establishment of a legal framework.

A Diplomatic Conference was held in Brasilia, Brazil from 7 to 9 December 2009, convened by ICAO. Eight South American States participated in the Diplomatic Conference. The Conference developed the text of the Constituent Convention for the implementation of the South American Air Navigation and Safety Organization. The referred Convention was signed at the end of the Conference by Chile, Paraguay, and Uruguay and is presently open for signature by interested South American ICAO Member States, in the External Relations Ministry of Brazil until 30 June 2010, and afterwards at ICAO Headquarters up to its entrance into force. The implementation of this International Organization will strengthen, at the regional level, the implementation, management and consolidation of multinational Systems related to Air Navigation and Safety, in particular CNS/ATM. The Legal Affairs and External Relations Bureau provided guidelines for the development of the Diplomatic Conference, supported discussions regarding the legal policies of the Organization, and provided tools for the preparation of legal instruments drafted during the Conference.

4) International interests in mobile equipment (aircraft equipment).

On behalf of the Council in its capacity as the Supervisory Authority of the International Registry, the Secretariat continued monitoring the operation of the Registry to ensure that it functions efficiently in accordance with Article 17 of the Cape Town Convention of 2001. The Council approved changes to the Regulations and Procedures for the International Registry at its 186th Session and, at its 188th Session, approved the reappointment of the current Registrar, Aviareto Ltd., for a second five-year term commencing 1 March 2011. In July the Council reappointed the Commission of Experts of the Supervisory Authority of the International Registry (CESAIR) for another three years. The Commission is now composed of twelve members. At its fourth meeting in December, CESAIR recommended further changes proposed by the Registrar for approval by the Council.

5) Review of the question of the ratification of international air law instruments; and

The Secretariat continued to take the administrative action necessary to encourage ratification, such as developing and disseminating ratification packages, promoting ratification at various fora, such as meetings and seminars, and ensuring the continued emphasis on ratification matters by the President of the Council and the Secretary General during their visits to States.



The Legal Affairs and External Relations Bureau's Treaty Collection on the ICAO website was updated and now contains current lists of parties to treaties; status forms of individual States with regard to treaties; a composite table showing parties to treaties and status of individual States; a chronological record of depositary activity; and administrative packages to assist States in becoming parties to international air law instruments. All depositary actions and newly adopted treaties are promptly reflected in the Treaty Collection.

6) Safety aspects of economic liberalization and Article 83 bis.

The Secretariat continued to actively monitor the issue. In this context, the Legal Affairs and External Relations Bureau more particularly provided legal support for the establishment of the necessary framework to implement Article 21 of the Convention regarding a database of aircraft registration and ownership, as well as for an international register of Air Operator Certificates.

### Working Group on Governance (Policy) - WGOG

In June, during the 187th session of the Council, the Working Group on Governance (Policy) — WGOG, whose secretariat functions are provided by the Legal Affairs and External Relations Bureau, presented two reports to the Council:

- Future sessions of the Assembly (C-WP/13344; C-DEC 187/3-4): the Council mainly decided to organize sessions of the Assembly in two phases (committees and plenary) and to use an electronic voting system for the Council elections.
- The participation of observers and the election of officers in the Legal Committee (C-WP/13399; C-DEC 187/4): the Council requested the Legal Committee to consider whether to amend Rule 31 of the rules of procedure, which the latter decided not to do but to let the Chairman give appropriate weight to the participation of State delegations and observers.

Moreover, in November (188th Session), the Council considered further reports of WGOG, in particular on the following issues:

- Review of international governance (Chicago Convention) (C-WP/13416; C-DEC 188/6): the Council decided not to initiate any further action on this issue, it being understood that all Member States had the right to present proposals to amend the Chicago Convention pursuant to Assembly Resolution A4-3.
- Allocation of seats on the Council (oral report; C-DEC 188/7): the Council decided to maintain the status quo as regards the allocation of



seats under the three parts referenced in Article 50 b) of the Chicago Convention.

 Election of the officers of the Assembly (oral report; C-DEC 188/7): the Council confirmed that the selection of candidates is a delicate process that should remain flexible and entrusted to the President of the Council.

### Settlement of disputes

In a number of instances, the Legal Affairs and External Relations Bureau assisted the President of the Council and the Secretary General in their efforts to encourage or facilitate negotiations between States in cases of emerging disputes.

### Technical cooperation projects and initiatives

Ten national and four regional technical cooperation projects were implemented to support activities linked to international air law.

ICAO recruited eight international experts to advise civil aviation administrations in the development or updating of civil aviation legislation, including basic civil aviation law and regulations addressing ICAO Standards and other international civil aviation-related treaties for incorporation into national law.

Twenty-eight nationals received specialized training in the field of air law, 14 of which attended fellowship training.



# SUPPORTING IMPLEMENTATION STRATEGIES



### SUPPORTING IMPLEMENTATION STRATEGIES

### Language and publications

In 2008, Council agreed to allot additional funds to language services to ensure proper management through enhanced coordination and promotion of efficiency gains and to avoid disruption in service delivery.

This made it possible to deal more effectively with a global demand of 11.7 million words in 2009, a 33.7 per cent increase over 2008. The Language and Publications Branch (LPB) handled 10.2 million words, a 31 per cent increase over the previous year, using 37 per cent outsourcing and 63 per cent internal resources. Publications already published in English but not yet in the other language versions were prioritized. In December, the Secretary General approved additional funding from the Ancillary Revenue Generation Fund to cover the processing of the prioritized publications as well as publications submitted for English editing. The backlog submitted prior to 2008 was cleared and no additional backlog accumulated in 2008. Only one large publication was pending translation at the end of 2009.

In 2009, the production of saleable publications was maintained at the 2008 level, as were electronic publishing and availability of documentation online.

Interpretation was provided to 1 714 sittings compared to 1 333 in 2008.

A case study to evaluate computer-assisted translation (CAT) tools was carried out, using three different software packages. An immediate benefit of CAT would be an increase in the quality and consistency of translations, both in-house and external. Productivity gains could also be realized over time through improved efficiency in the processing of publications workflow derived from CAT. Subject to funding, this project will be introduced in the next triennium.

In an effort to increase efficiency and effectiveness in the management of language services, two policy papers were produced — the Policy on the Processing of Publications and the Policy and Procedures for Coordination of Interpretation and Translation Services.

### Human resources

In 2009, with the guidance of the Human Resources Committee (HRC), the Human Resources Branch (HRB) continued to focus its efforts on the review and updating of ICAO Staff Regulations relating to recruitment and contractual arrangements in order to better meet the evolving needs of the Organization and with the overall goal of successfully attracting, retaining and developing high



calibre staff, thereby supporting line managers in meeting the Strategic Objectives of the Organization. Taking into account the latest developments in the United Nations, work also commenced on reviewing the Organization's requirements in terms of ethics and administration of justice.

HRB continued to guide the Organization towards the successful implementation of the Performance and Competency Enhancement (PACE) system, which, for the last two years, has proven to be a constructive management tool in communicating performance plans to staff, in establishing staff development needs and in assessing staff performance. In comparison with the former performance appraisal system, PACE has yielded a higher overall participation rate, as well as an overall improvement in the performance of staff. Taking into account the experience gained thus far, HRB will further update PACE in order to continue to improve staff performance and organizational results.

With a view to ensuring that ICAO has a flexible workforce with the necessary skills and competencies to meet organizational needs and thanks to a significant increase in available financial resources for 2009, HRB continued to expand its administrative, management and technical training and staff development activities. Over the year, 89 training sessions were offered. Resources were made available to the Air Navigation Bureau in support of its initiatives to provide technical training in the air navigation field for Headquarters and Regional Office staff. These training and staff development activities have assisted in updating the skills and knowledge of staff, thereby assisting them in better performing their jobs.

With regard to the recruitment of Professional posts, improvements continued to be made in reducing the time required to fill posts. Through the efforts and collaboration of HRB and line managers, the majority (71%) of appointment decisions taken in 2009 were made within the six-month recruitment timeline established by Council. Efficiency savings continue to be sought, especially with the introduction of management reform and technology improvements.

At the end of the year, there were 576 established posts within the Organization which were funded by the Regular Programme and the Administrative and Operational Services Cost (AOSC) Fund. Out of these, 268 posts were in the Professional and higher categories and 308 were in the General Service category.

### **Records management**

Based on the Report of the Secretariat Group chaired by the Director of Administration and Services, a Business Case Study on the implementation of an organization-wide Electronic Documents and Records Management System (EDRMS) was initiated for both Headquarters and the Regional Offices. The focus was placed on the modernization of ICAO's administrative procedures and processes in order to enhance the efficiency and effectiveness of the Organization.



The 11th Edition of the ICAO Publications Regulations was adopted in 2009, simplifying the overall structure of the document. This was another initiative to further increase the efficiency of the ICAO publishing programme.

Thanks to cooperation with some Member States, part of ICAO's Archival material was digitized and made available on-line to a wider audience, including members of some panels and working groups, thus enhancing the efficiency of access and utilization of ICAO historical records.

### Information technology

Throughout 2009, the Information and Communication Technology Section (ICT) put in place Organization-wide initiatives to enhance security, infrastructure and development of information and telecommunication systems, thereby enhancing the overall efficiency and effectiveness of the Organization by supporting Bureaux and Offices in achieving their programme goals. Specific activities include:

### Programme support

- Introduction of SharePoint technology to empower users and streamline meeting management and document publishing to websites. The Council website was activated for the 188th Session of the Council and is under continuous review for efficiency and usability improvements.
- Delivery of new Internet services, such as the ICAO Online News Centre and Live Meeting web conferencing. This enhanced communications between the Organization and external audiences, including States, international organizations and the public.
- Participation in the preparation of the Business Case Study related to the Electronic Documents and Records Management System.
- Successful implementation of an electronic Security Awareness Training Programme to support the Information Security Framework.
- Ongoing support to the ICAO Knowledge Sharing Network and the Integrated Mission Planning projects.
- Updating of existing systems to current technology: ICAO Statistical Database (ISDB), World Air Services Agreements (WASA) database and European Co-ordination Centre for Aviation Incident Reporting Systems (ECCAIRS). The review of the Air Transport Revenue and Cost Analysis system was initiated and will be completed by the first quarter of 2010.
- Development of the first version of the Aircraft Registration System (ARS) and involvement in a joint implementation of the ICAO EUR/NAT Regional Database (ICARD) at ICAO, to be extended into 2010. ICT



worked extensively with the Air Navigation Bureau and the Air Navigation Commission to develop an electronic system for State Letters on amendments to the Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS).

### Infrastructure and service desk support

The following systems were upgraded to improve both throughput and security for connections via the Internet: firewall, remote user connection and electronic mail anti-virus/anti spam systems. ICAO introduced server virtualization to provide a more efficient and flexible server infrastructure. Server virtualization contributes to "greener" information technology within ICAO, and it allows for a more efficient use of available server resources. Greener information technology was also achieved by replacing obsolete, less efficient equipment with newer units that consume less energy.

Finally, there was a full-scale upgrade of the Microsoft Office suite of business applications, ensuring that the Organization stays current with technology and is able to communicate and interact with Member States, industry and other organizations.



# TECHNICAL COOPERATION PROGRAMME



### TECHNICAL COOPERATION PROGRAMME

The Technical Cooperation Programme is a permanent priority activity of the Organization, which complements the technical role of the Regular Programme, by supporting Member States in the implementation of ICAO regulations, policies and procedures.

The Technical Co-operation Bureau (TCB) provides a broad spectrum of services, including assistance in reviewing the structure and organization of national civil aviation institutions, updating the infrastructure and services of airports, facilitating technology transfer and capacity building, promoting ICAO Standards and Recommended Practices (SARPs) and supporting remedial action resulting from the Universal Safety Oversight Audit Programme (USOAP) and the Universal Security Audit Programme (USAP) audits.

In 2009, ICAO implemented a Technical Cooperation Programme of USD 129.3 million. Under various Trust Fund arrangements, TCB executed 208 projects in 82 countries, of which 9 were operationally completed during that year. Summaries of technical cooperation projects implemented in 2009 can be found in Appendix 2 of this report online at: <a href="http://www.icao.int/annualreports">http://www.icao.int/annualreports</a>.

Approximately 98% of the total Programme was funded by developing countries financing their own technical cooperation projects. Extra-budgetary contributions to specific project funds provided by other donors such as development banks, regional organizations, funding institutions and the aviation industry amounted to 1%, including voluntary contributions in kind. The United Nations Development Programme (UNDP) core contribution to the Programme amounted to 1%.

Over the 2007 to 2009 period, the annual Programme decreased 26%, primarily due to the economic downturn during that period. ICAO pursued its efforts to reduce the gap in assistance between the various geographical regions to achieve a more balanced programme.

The 2009 Programme is closely aligned with ICAO Strategic Objectives and the technical cooperation projects, which cover a wide range of subjects: civil aviation master planning; human resource planning and development; administration and legislation; communication and navigation; aviation security; aviation meteorology; environmental aspects of airports; airworthiness and flight operations; safety management systems; aviation medicine; airport feasibility studies, construction and management; air traffic services; and introduction of the ICAO TRAINAIR methodology; as well as global and regional fellowship training programmes.



Total	174.11	156.97	129.27	-44.84
Europe and Middle East	9.10	31.74	17.54	+8.44
Asia and Pacific	2.52	7.09	20.60	+18.08
Americas	153.01	102.06	77.95	-75.15
Africa	9.47	16.07	13.17	+4.23
Region	2007	2008	2009	(%)
				decrease (–) 2009 vs. 2007
				Increase (+)/

# The Technical Cooperation Programme implementation by region (in millions of USD)

The three main components of projects implemented by ICAO are experts recruited to provide technical cooperation at the field level, fellowships awarded to personnel of civil aviation departments selected by the government, and equipment and services procured for projects.

### **Recruitment of experts**

The total number of international field experts and consultants recruited in 2009 was 360. There were also 1 253 national project personnel for a total of 1 720 serving officials, including 107 international field experts and consultants who were already serving in the field. These experts were recruited to serve as advisers to national civil aviation administrations, as instructors at training centres or on the job, and as executive personnel providing operational and administrative services for the government, including safety inspectors, where States lacked the capability.

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. In providing assistance to civil aviation authorities, the experts contributed to the achievement of ICAO's Strategic Objectives through the transfer of knowledge in various fields to national counterparts, the implementation of ICAO SARPs, the development of adequate civil aviation organizational structures, institutional development and capacity building and the rectification of safety and security deficiencies.





### **Civil aviation training**

During the year, 731 fellowships were awarded for a total duration of 465.5 work/months. Within the framework of Memoranda of Understanding signed by ICAO with China, the Republic of Korea, Singapore and Thailand for the provision of training to be funded by these countries and administered by ICAO, a total of 33 fellowships were awarded for training at the Civil Aviation Management Institute of China in the fields of air transport supervision and basic approach/radar control; 49 fellowships were awarded for training at the Korea Civil Aviation Training Centre in the fields of global satellite navigation systems (GNSS), Doppler VOR maintenance, and radar approach control; and 87 fellowships were awarded for training at the Singapore Aviation Academy in the fields of aircraft accident investigation, civil aviation management, safety oversight airworthiness inspection, safety oversight airworthiness/flight operations, safety oversight management, integrated safety management system, State safety programme and CNS/ATM systems; and 184 fellowships were awarded to participants in courses held at the Civil Aviation Training Centre of Thailand on aviation English language proficiency, aviation security management, English for the aviation industry, CNS/ATM, human factors, meteorology, and safety management systems.

In addition, 2 585 technical, managerial and operational personnel of civil aviation administrations received in-country training in various fields by experts recruited through TCB projects, demonstrating continued awareness by States of the importance of civil aviation training.

Compensating for the low UNDP funding, which traditionally supported fellowship training, recipient States continued to include substantial training for their nationals as part of the procurement component of their ICAO technical cooperation projects. In 2009, 369 national staff benefited from training in new technologies and in the operation of equipment purchased through ICAO projects, such training totalled USD 0.1 million.



Considering the importance of the human element as a key factor in the safety of civil aviation, training of management, technical and operational personnel particularly contributed to improving the oversight capabilities of civil aviation administrations of recipient countries. In accordance with information received from States, staff trained through the Technical Cooperation Programme are being progressively absorbed by civil aviation administrations, which greatly benefit from the sharing of knowledge and from the training and retention of a workforce of qualified aviation safety and security personnel and inspectors.



### Equipment and subcontracts

During 2009, 439 purchase orders and subcontracts were issued for the Technical Cooperation Programme. The total field procurement implementation was USD 83.1 million. Assistance provided to States to upgrade their civil aviation infrastructure ranged from the development of technical specifications, tendering and administration of complex multi-phase turn-key contracts to the commissioning of equipment, and had a direct and positive impact on the improvement of safety and security of airports, communications and air navigation infrastructure, enabling more efficient and economic aviation operations in the countries and regions concerned.

The equipment and services procured by ICAO had a direct impact on the improvement of the State civil aviation infrastructures and the safety and efficiency of air operations. In particular, ICAO expertise ensured that technical specifications were in compliance with applicable ICAO SARPs and regional air navigation plans.



A further 264 purchase orders and subcontracts for CAD 13.2 million were issued by TCB covering procurements of equipment and services for the ICAO Regular Programme and Technical Co-operation Bureau (TCB) administrative requirements. The most significant project implemented in 2009 was the contract for the Business Case Study on the implementation of an Electronic Documents and Records Management System (EDRMS) at ICAO Headquarters and the Regional Offices for CAD 245 900. Other major procurements included the upgrade of the Data Communication Equipment (CAD 586 752), Data Storage System (CAD 238 676), Integrated Safety Data Collection and Analysis System (ISDCAS) and Comprehensive Runway Safety Programme (CAD 318 880). Web Based Training Course (CAD 107 973) and the Audit of the Agresso System, Phase I (CAD 42 030).





Strategic Objective	The Americas	%	Africa	%	Asia and Pacific	%	Europe and Middle East	%	Total Programme Implementation	%
A (Safety)	4 521 223	5.8	6 337 251	48.1	2 864 065	13.9	7 016 977	40.0	20 739 516	27.0
B (Security)	1 870 851	2.4	197 627	1.5	226 653	1.1	1 017 461	5.8	3 312 592	2.7
C (Environment)	77 952	0.1	0	0	20 604	0.1	35 085	0.2	133 641	0.1
D (Efficiency)	27 517 098	35.3	6 561 229	49.8	3 667 652	17.8	8 069 523	46.0	45 815 502	37.2
E (Continuity)	40 846 911	52.4	79 051	0.6	13 496 134	65.5	1 403 395	8.0	55 825 491	31.6
F (Rule of Law)	3 118 085	4.0	0	0	329 677	1.6	0	0	3 447 762	1.4
Total	77 952 120	100.0	13 175 158	100.0	20 604 785	100.0	17 542 441	100.0	129 274 504	100.0

# Implementation volume by Strategic Objective (in USD)





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

ICAO does not provide funding from its regular sources for its Technical Cooperation Programme; it is funded by extra-budgetary resources provided by donors or governments to fund their own projects. Administrative charges are levied for the execution of projects on the basis of the cost recovery principle. Funds received for such charges are administered by the Secretary General under the applicable provisions of the Financial Regulations and through the Administrative and Operational Services Cost (AOSC) Fund. The AOSC Fund is utilized to meet the full cost of the administration, operation and support of the Technical Cooperation Programme. It covers expenditures within TCB, such as staff costs, general operating expenses and equipment. Regular Programme expenditures for services provided to the Technical Cooperation Programme are also recovered from the AOSC Fund. Based on the Terms of Reference approved by the Council, an outside consultancy was hired to study and propose options for a harmonized policy on cost recovery of indirect costs applicable to all extra-budgetary activities of the Organization, including the Technical Cooperation Programme. The study was concluded in June 2009 and discussions on the possible long-term and short-term solutions to the cost apportionment between the two Programmes continued with the establishment of a Subgroup of the Technical Cooperation Committee and the Finance Committee.

The AOSC budget estimates approved by the Assembly are indicative only because the Technical Cooperation Programme cannot be determined with precision until governments and donors have decided on the amounts to be allocated to civil aviation projects.

In 2008, the Canadian dollar was adopted as 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.

In order to ensure comparability, the figures in the table below for the years 2005 to 2007 were reinstated in Canadian dollars.

### AOSC income, expenditures, surplus or shortfall

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 as at 31 December 2009 is estimated at CAD 2.7 million. These funds serve as a reserve to cover possible deficits in Programme operations as well as to pay, if necessary, termination indemnities to staff, the latter amounting to approximately CAD 4.0 million at 31 December 2009.

Estimated results of operations show a deficit of CAD 817 000 in 2009. Average overhead rate charged to projects over the past five years increased from 5.3% in 2005 to 5.6% in 2009.





Detailed information on projects implemented in 2009 can be found at <u>http://www.icao.int/annualreports</u>



# FINANCIAL STATEMENT



### FINANCIAL STATEMENT

### Financial Highlights - 2009

The budget appropriations for 2008-2009-2010 and the financing of the appropriations, as approved by the Assembly, are shown in Table 1:

	2008	2009	2010
	CAD	CAD	CAD
Appropriations	79 951 000	80 085 000	85 507 000
To be financed by:			
Assessments	74 184 000	74 060 000	79 204 000
Miscellaneous Income	1 916 000	1 917 000	1 917 000
Ancillary Revenue Generation Fund Surplus	3 851 000	4 108 000	4 386 000

### Table 1.Appropriations for 2008, 2009 and 2010

As shown in Table 2, the final appropriation for 2009 was adjusted to CAD 75 823 000, as a result of:

- i) the carry-over of 2008 appropriations to 2009 for a total of CAD 11 324 000 in accordance with Financial Regulation 5.6 and Financial Regulation 5.7, C-DEC 186/8 and 186/12;
- ii) the transfer of appropriations to other funds of CAD 1 652 000;
- iii) the transfer between Strategic Objectives or Supporting Implementation Strategies in accordance with Financial Regulation 5.9 and C-DEC 190/3;
- iv) the following adjustments for a total amount of CAD 13 934 000 to decrease 2009 appropriations and to increase 2010 appropriations:
  - a) the Outstanding Commitments in the amount of CAD 4 771 000 in accordance with Financial Regulation 5.7;
  - b) the Balance of Triennium Commitments in the amount of CAD 3 056 000 as per Financial Regulation 5.6 and C-DEC 186/8 and 186/12;



Table 2.	Revised appropriations for 2009	

			A	ppropriations	3		
	Original Assembly Resolution A36-29 CAD	Carry-over from prior year CAD	Decrease of appropriations CAD	Transfers among SO/SIS CAD	Adjustments CAD	Revised appropriations CAD	Actual expenditures CAD
Strategic Objectives (	SO)						
A – Safety	15 014	1 770	-	1 545	(3 920)	14 409	14 409
B – Security	6 532	62	-	(1 952)	(206)	4 436	4 436
C – Environmental pr	1 672	294	(253)	143	(472)	1 384	1 384
D – Efficiency	21 436	637	-	63	(2 540)	19 596	19 596
E – Continuity	2 114	27	-	(462)	(111)	1 568	1 568
F – Rule of Law	658	358	-	47	(16)	1 047	1 047
Subtotal	47 426	3 148	(253)	(616)	(7 265)	42 440	42 440
Supporting Implemen	tation Strategi	es (SIS)					
Management and administration	18 582	5 070	(1 323)	1 955	(4 006)	20 278	20 278
Programme support	14 001	3 106	-	(1 339)	(2 663)	13 105	13 105
Subtotal	32 583	8 176	(1 323)	616	(6 669)	33 383	33 383
Total	80 009	11 324	(1 576)	-	(13 934)	75 823	75 823
Organizational realignment	76	-	(76)	-	-	-	-
Total	80 085	11 324	(1 652)	-	(13 934)	75 823	75 823

(in thousands of CAD)

c) the Deferred Activities in the amount of CAD 59 000 in accordance with Financial Regulation 5.6; and

d) the carry-over of 2009 appropriations to 2010 in the amount of CAD 6 048 000 as per Financial Regulation 5.6, C-DEC 190/3.

The actual expenditure for 2009 against the appropriation amounted to CAD 75 823 000.

Assessments for 2009 on Member States amounted to CAD 74 060 000. Assessments for 2009 actually received by the year's end amounted to CAD 71 670 059, or 96.78% as compared with 96.88% at the end of 2008 and 98.67% at the end of 2007. In addition, CAD 1 636 281 was received in respect of assessments for previous years. The total outstanding arrears of assessments as at 31 December 2009 amounted to CAD 13 030 984.



Table 3 shows the financial position of the Organization, in terms of cash balances in the General and Working Capital funds, at the beginning of the year and at the end of each quarter, with the corresponding figures for 2008.

The above relates to operations under the Regular Programme of the Organization, financed by appropriations made by the Assembly. The operating expenditures of the Technical Co-operation Bureau (TCB) are financed by the Technical Cooperation Administrative and Operational Services Cost Fund (AOSCF), while certain other support personnel and expenses are financed from other special Funds.

		2009			2008					
As at	General Fund CAD	Working Capital Fund CAD	Total CAD	General Fund CAD	Working Capital Fund CAD	Total CAD				
1 January	19 483 148	7 265 360	26 748 508	24 651 730	5 887 510	30 539 240				
31 March	20 308 052	7 307 048	27 615 100	21 922 338	5 837 479	27 759 817				
30 June	21 475 763	6 910 947	28 386 710	21 771 447	5 939 307	27 710 754				
30 September	10 205 558	6 474 623	16 680 181	11 886 009	5 974 031	17 860 040				
31 December	14 139 953	6 222 694	20 362 647	19 483 148	7 265 360	26 748 508				

### Table 3. Financial position (cash balance) of the Organization

The audited Financial Statements of ICAO for the year 2009 are contained in a Council Working Paper (C-WP/13568) with an extract of the two main Statements shown in Tables 4 and 5 below. A full explanation and detailed analysis is contained in the Report of the Secretary General and the Notes to the Financial Statements also contained in C-WP/13568.

Table 4 is the income and expenditure summary for the year 2009, extracted from Statement I of the Financial Statements. It contains Proprietary Funds owned and controlled by ICAO and Non Proprietary Funds which belong to third parties but are managed by ICAO.



# Table 4. 2009 income and expenditure summary (all funds) (in thousands of CAD)

	2009	2008
INCOME:		
Assessed and voluntary contributions	81 249	79 679
Revenue generation income	11 278	11 757
Technical cooperation contributions	132 518	135 512
Joint financing income	30 009	45 363
Miscellaneous income	10 903	14 541
Total income	265 957	286 852
EXPENDITURE		
Staff costs	132 092	125 525
General operating expenses	15 934	12 415
Travel and meetings	9 737	8 364
Technical cooperation projects		
expenditures	51 936	27 409
Joint financing costs	42 965	55 820
Miscellaneous costs	1 678	554
Total expenditures	254 342	230 087
Operating surplus/(deficit)	11 615	56 765
Currency revaluation gain/(loss)	(36 074)	41 046
Reported surplus/(deficit)	(24 459)	97 811





### FINANCIAL STATEMENT

Table 5 is the balance sheet as at 31 December 2009. It shows the assets, liabilities and surpluses for all funds combined.

# Table 5. Balance sheet summary as at 31 December 2009 (all funds)(in thousands of CAD)

	2009	2008
ASSETS		
Cash and cash equivalents	212 069	261 219
Assessments receivable	13 031	12 277
Other receivables and advances	54 689	29 949
Other assets	4 025	2 962
Non current assets	1 795	10 213
Total assets	285 609	316 620
LIABILITIES		
Unliquidated obligations	0	17 058
Accounts payable	32 592	34 575
Joint financing credits due	17 519	4 203
Technical cooperation advance		
receipts/revenues	168 937	174 045
Other liabilities	2 752	2 905
Total liabilities	221 800	232 786
NET ASSETS/EQUITY	63 808	83 836
Total liabilities and net assets/equity	285 608	316 622

Apart from the key figures which are explained in C-WP/13568, the main points of note in the Financial Statements for 2009 are:

- the overall cash and financial situation remains healthy with sufficient surpluses to deal with postponed and new spending requirements;
- there remain Assessed Contribution arrears of CAD 13 million, which are held as receivables at full value, and continue to present a limitation on Programme Implementation;
- the Technical Cooperation Programme has continued to perform with tight margins, but has shown improved results over 2008;



- this is the second year of the reporting currency as Canadian dollars (CAD) and with the exchange rate with the United States dollar (USD) fluctuating significantly from year to year, there remain significant gains and losses arising from currency transactions. Assessments were in USD up until 2007, switched to CAD for 2008 and 2009 and will be split between CAD and USD (in a ratio of 3:1) from 1 January 2010 onwards;
- the International Public Sector Accounting Standards (IPSAS) for expenditures has been working for the second year and no further Obligation amounts are included in reported expenditures. All other IPSAS standards will be introduced in 2010, the most significant impact to be from the inclusion of staff after-service entitlement liabilities and the method of reporting revenues in the technical cooperation area; and
- the Agresso accounting systems are now well established and produce the financial statements with ease, although some subsidiary systems and the Regional Offices will only be operational in 2010.

### Adoption of International Public Sector Accounting Standards (IPSAS)

In 2006, the United Nations and the United Nations System's Chief Executive Board (CEB) approved the replacement of the United Nations System Accounting Standards (UNSAS) with IPSAS to be applied to the accounts and the financial statements. These standards are being implemented by United Nations organizations, including ICAO, during the period 2008 until 2014.

The adoption of some IPSAS by ICAO started in 2008 with the recognition of expenditures on the accrual basis, which generally corresponds to the year in which services are rendered and goods are received. Under UNSAS the cash and commitment basis of accounting was used and obligations, once issued, were recognized as expenditures. It is estimated that, had the previous expenditure policy been maintained in 2008, reported expenditures and the liability for obligations not liquidated at the end of 2008 would have increased by CAD 63.4 million and administrative fee revenue presented in the AOSC Fund and calculated on the basis of expenditures would have increased by CAD 0.4 million. Under IPSAS, these amounts will be recognized in the accounts in subsequent years, once services are rendered and goods received. With the adoption of IPSAS, further significant changes will be made to the financial statements and the accounts. These changes will include the recognition of all revenue on the accrual basis, additional assets on the face of the financial statements, such as equipment, and additional liabilities, such as after service benefits payable to employees.

IPSAS is being implemented at ICAO based on available guidance provided by the United Nations CEB Task Force on accounting standards. It should be noted that, for efficiency purposes, the Enterprise Resource Planning (ERP) system presently being deployed at ICAO is aligned with IPSAS.



### Advisory Group on Evaluation and Audit (AGEA)

The Council created an independent Advisory Group to provide guidance to the Council on the Organization's audit, evaluation, risk management and internal control processes. Its five members come from four different regions and are independent of the Secretariat and the Council. This Group met for the first time in September of 2008 and several more times in 2009 and provided advice to the Council on a number of issues. Its first annual report, which was discussed by the Council in October of 2009, provided information as to whether efficient and effective risk management and assurance processes are in place and whether the independent assurance mechanisms are working as efficiently as possible.

### **Evaluations and audits**

During 2009, the Council adopted a Charter for the Evaluation and Internal Audit Office (EAO). The Charter defines the mandate of EAO, the reporting lines and the roles of the various stakeholders, including the relationship and cooperation with the Advisory Group on Evaluation and Audit (AGEA) and the External Auditor. Concept papers for the introduction of risk management and a whistleblower policy and procedure were developed on the request of AGEA and the Council. Audits of the Ancillary Revenue Generation Fund (ARGF), the Commissariat and the Procurement Section were conducted and another one on the Enterprise Resource Planning (ERP) system, Agresso, is under preparation. Increased emphasis was given to the follow-up of actions taken in response to recommendations made by EAO, as well as the External Auditor and the Joint Inspection Unit (JIU), for which EAO acts as focal point. As recommended by the AGEA, the JIU and the External Auditor, a detailed strategy and expansion plan for EAO for the next triennium was prepared to increase the internal audit coverage and to develop the evaluation function.





### APPENDIX 1. TABLES RELATING TO THE WORLD OF AIR TRANSPORT IN 2009

General Note.— The statistical data for 2009 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 non-scheduled as well as scheduled operations of scheduled airlines.

	Passe	ngers	Passenger-km Freight tonnes		tonnes	Freight tonne-kn	n performed	Mail tonn perform	e-km ned	Total tonne-km performed			
		Annual		Annual		Annual		Annual		Annual		Annual	
		increase		increase		increase		increase		increase		increase	
Year	Millions	%	Millions	%	Millions	%	Millions	%	Millions	%	Millions	%	
2000	1 672	7.0	3 037 530	8.6	30.4	8.2	118 080	8.7	6 050	5.8	403 960	9.1	
2001	1 640	-1.9	2 949 550	-2.9	28.8	-5.3	110 800	-6.2	5 310	-12.2	388 150	-3.9	
2002	1 639	-0.1	2 964 530	0.5	31.4	9.0	119 840	8.2	4 570	-13.9	397 120	2.3	
2003 <sup>1</sup>	1 691	3.2	3 019 100	1.8	33.5	6.7	125 760	4.9	4 530	-0.9	407 670	2.7	
2004	1 888	11.6	3 445 300	14.1	36.7	9.6	139 040	10.6	4 580	1.1	458 910	12.6	
2005	2 022	7.1	3 721 690	8.0	37.6	2.5	142 520	2.5	4 660	1.7	487 860	6.3	
2006	2 127	5.2	3 948 570	6.1	40.0	6.4	151 940	6.6	4 530	-2.8	518 440	6.3	
2007	2 303	8.3	4 252 520	7.7	42.0	4.9	159 050	4.7	4 490	-0.9	550 010	6.1	
2008	2 293	-0.4	4 325 900	1.7	40.7	-3.0	157 010	-1.3	4 770	6.2	555 320	1.0	
2009	2 277	-0.7	4 244 540	-1.9	37.8	-7.0	140 610	-10.4	4 370	-8.4	531 260	-4.3	

### Table 1. World total revenue traffic — international and domestic

(scheduled services of airlines of ICAO Member States, 2000–2009)

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 Form A plus ICAO estimates for non-reporting States.



	Passen	gers Annual increase	Passeng	er-km Annual increase	Freight	tonnes Annual increase	Freight t perfo	onne-km rmed Annual increase	Mail tor perfo	nne-km rmed Annual increase	Total tor perfor	nne-km med Annual increase
Year	Millions	%	Millions	%	Millions	%	Millions	%	Millions	%	Millions	%
2000	542	9.9	1 790 370	10.4	18.8	8.7	101 560	8.9	2 670	7.7	273 090	10.3
2001	536	-1.1	1 726 580	-3.6	18.0	-4.3	95 950	-5.5	2 660	-0.4	261 030	-4.4
2002	547	2.1	1 736 070	0.5	18.8	4.4	101 590	5.9	2 710	1.9	267 170	2.4
2003	561	2.6	1 738 510	0.1	19.6	4.3	103 130	1.5	2 710	0.0	268 420	0.5
2004	647	15.3	2 015 070	15.9	21.8	11.2	115 120	11.6	2 830	4.4	304 920	13.6
2005	705	9.0	2 199 940	9.2	22.6	3.7	118 440	2.9	2 980	5.3	325 450	6.7
2006	764	8.3	2 374 810	7.9	24.1	6.6	126 400	6.7	3 040	2.0	349 820	7.5
2007	858	12.3	2 576 130	8.5	25.5	5.7	132 910	5.1	3 180	4.6	372 830	6.6
2008	891	3.9	2 683 840	4.2	25.3	-0.6	131 720	-0.9	3 330	4.7	381 810	2.4
2009	872	-2.1	2 596 410	-3.3	22.9	-9.5	117 050	-11.1	3 100	-6.9	359 180	-5.9

 Table 2.
 World revenue traffic — international

(scheduled services of airlines of ICAO Member States, 2000-2009)

 
 Table 3.
 Trends in load factors on scheduled services — international and domestic (scheduled services of airlines of ICAO Member States, 2000–2009)

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 %
2000	3 037 530	4 286 200	71	118 080	6 050	403 960	656 880	61
2001	2 949 550	4 271 860	69	110 800	5 310	388 150	660 000	59
2002	2 964 530	4 167 110	71	119 840	4 570	397 120	654 180	61
2003	3 019 100	4 227 860	71	125 760	4 530	407 670	673 460	61
2004	3 445 300	4 704 730	73	139 040	4 580	458 910	738 750	62
2005	3 721 690	4 975 910	75	142 520	4 660	487 860	780 560	63
2006	3 948 570	5 215 340	76	151 940	4 530	518 440	819 810	63
2007	4 252 520	5 544 460	77	159 050	4 490	550 010	868 300	63
2008	4 325 900	5 706 700	76	157 010	4 770	555 320	881 760	63
2009	4 244 540	5 586 640	76	140 610	4 370	531 260	850 880	62



By ICAO statistical	Aircraft	Aircraft	Passengers	Passenger- kilometres	Passenger load	Tonne-kilometres performed		Tonne- kilometres	Weight load
region of airline registration	kilometres (millions)	departures (thousands)	carried (thousands)	performed (millions)	factor (%)	Freight (millions)	Total (millions)	available (millions)	factor (%)
Total (international and domes	tic) services of a	irlines of ICAO	Member States						
Europe	8 964	7 183	637 850	1 191 483	76	34 267	143 590	217 281	66
Percentage of world traffic	26.6	27.8	28.0	28.1		24.4	27.0	25.5	
Africa	905	594	47 527	98 001	66	1 900	11 393	21 309	53
Percentage of world traffic	2.7	2.3	2.1	2.3		1.4	2.1	2.5	
Middle East	1 636	751	93 338	282 541	73	12 350	39 387	66 672	59
Percentage of world traffic	4.9	2.9	4.1	6.7		8.8	7.4	7.8	
Asia and Pacific	7 920	5 624	626 018	1 150 554	74	50 816	156 078	244 555	64
Percentage of world traffic	23.5	21.8	27.5	27.1		36.1	29.4	28.7	
North America	12 390	9 878	732 007	1 331 528	81	36 382	159 341	261 769	61
Percentage of world traffic	36.8	38.2	32.1	31.4		25.9	30.0	30.8	
Latin America and Caribbean	1 863	1 821	140 453	190 432	68	4 898	21 469	39 297	55
Percentage of world traffic	5.5	7.0	6.2	4.5		3.5	4.0	4.6	
Total	33 678	25 851	2 277 192	4 244 538	76	140 613	531 258	850 883	62
International services of airlin	es of ICAO Memb	er States							
Europe	7 407	4 645	469 194	1 058 699	77	33 467	130 704	196 626	66
Percentage of world traffic	42.7	57.2	53.8	40.8		28.6	36.4	34.4	
Africa	738	365	30 853	85 121	65	1 825	10 129	19 371	52
Percentage of world traffic	4.3	4.5	3.5	3.3		1.6	2.8	3.4	
Middle East	1 481	519	71 471	265 857	72	12 273	37 819	64 059	59
Percentage of world traffic	8.5	6.4	8.2	10.2		10.5	10.5	11.2	
Asia and Pacific	3 775	1 116	162 626	653 300	73	44 653	106 201	163 960	65
Percentage of world traffic	21.8	13.7	18.6	25.2		38.1	29.6	28.6	
North America	3 010	1 021	99 787	431 149	79	20 980	61 050	104 129	59
Percentage of world traffic	17.4	12.6	11.4	16.6		17.9	17.0	18.2	
Latin America and Caribbean	926	456	38 172	102 282	69	3 858	13 280	24 203	55
Percentage of world traffic	5.3	5.6	4.4	3.9		3.3	3.7	4.2	
Total	17 337	8 122	872 103	2 596 409	75	117 055	359 184	572 348	63

Table 4.	Regional	distribution	of scheduled	traffic -	2009
14510 11		alouisation	01 0011044104		

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

Source.- ICAO Air Transport Reporting Form A plus ICAO estimates for non-reporting States.



	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						
Country or group of countries	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)
United States	1	147 819	157 072	-6	1	54 372	58 958	-8	1	1 227 573	1 278 997	-4	1	372 738	393 772	-5
China <sup>2</sup>	2	41 188	37 169	11	10	11 651	12 554	-7	2	330 243	285 295	16	13	50 831	56 380	-10
Hong Kong SAR 3 Macao SAR 4		16 882	17 906	-6 30		16 882	17 906	-6 30		88 0/1	91 639	-4 10		2 078	91 639	-4 10
Germany	3	27 097	30 074	-10	2	240	29 156	-10	4	205 371	2 333	-13	3	196 382	211 126	-13
United Kingdom	4	23 449	24 101	-3	3	22 782	23 378	-3	3	230 596	232 592	-1	2	222 278	223 640	-1
United Arab Emirates	5	21 822	19 337	13	4	21 822	19 337	13	6	143 849	124 831	15	4	143 849	124 831	15
France	6	19 031	20 982	-9	5	17 178	18 996	-10	5	152 256	160 278	-5	5	133 457	140 106	-5
Japan	7	18 170	20 458	-11	9	12 665	14 354	-12	7	127 859	140 927	-9	10	66 575	72 572	-8
Republic of Korea	8	16 059	16 283	-1	6	15 589	15 753	-1	15	82 264	83 192	-1	9	77 276	77 435	0
Netherlands	9	13 112	14 306	-8	7	13 111	14 305	-8	10	90 184	95 189	-5	6	90 178	95 183	-5
Singapore	10	12 973	15 902	-18	8	12 973	15 902	-18	13	84 514	96711	-13	8	84 514	96 /11	-13
Canada	11	11 904	12 243	-3	12	6 942	7 137	-3	8	107 371	110 602	-3	11	60 979	62 814	-3
Australia	12	11 652	12 645	-8	13	6 923	7 633	-9	9	100 515	108 579	-7	14	50 061	55 244	-9
Russian Federation	13	9 918	10 669	-/	18	5 168	5 551	-/	14	83 828	91 096	-8	19	3/ 143	40 943	-9
Spain	14	8 279	9 011	-8	19	6 361	4 932 6 849	-7	12	80 134	87 100	-8	12	43773 59 821	63 991	-7
Iroland	16	0 000	7 201	10	11	0 000	7 201	10	11	07 475	70 409	10	7	07 475	70 409	10
Brazil	10	7 364	6 798	10	26	2 464	2 458	0	17	74 049	79490 66144	10	25	20 649	20 774	-1
Thailand	18	6 970	7 509	-7	14	6 539	7 112	-8	18	53 478	57 184	-6	15	48 885	52 948	-8
Malaysia	19	6 207	6 758	-8	17	5 251	5 883	-11	20	45 532	47 323	-4	20	35 020	37 795	-7
Turkey	20	5 669	4 709	20	20	4 855	3 924	24	19	49 529	42 560	16	17	40 682	34 251	19
Qatar	21	5 621	4 922	14	16	5 621	4 922	14	21	40 408	36 203	12	18	40 408	36 203	12
Luxembourg	22	4 688	5 402	-13	21	4 688	5 402	-13	116	411	495	-17	113	411	495	-17
Italy	23	4 329	5 364	-19	23	3 494	4 486	-22	22	39 811	41 217	-3	21	31 366	32 338	-3
Switzerland	24	4 022	4 225	-5	22	4 009	4 211	-5	25	29 560	30 268	-2	22	29 423	30 140	-2
Saudi Arabia	25	3 /46	3 888	-4	25	2 902	3 0/1	-b	26	28 891	27 736	4	27	20 248	19 451	4
New Zealand	26	3 429	3 772	-9	24	3 062	3 385	-10	29	25 924	28 045	-8	23	22 473	24 400	-8
Mexico	27	3 401	3 783	-10	29	2 332	2 488	-6	24	30 922	34 611	-11	28	19 423	20 707	-6
Indonesia South Africa	28	3 258	3 548	-ŏ	43	1 022	1 038	-2	23	31 8/3	34 952	-9	41	8 807	20 605	-1 8
Scandinavia 5	30	2 932	3 639	-19	27	2 378	2 992	-10	28	26 531	31 405	-16	23	20 689	20 003	-16
								_								
Chile	31	2 /69	2 891	-4	31	2 204	2 35/	-/	32	17 523	1/42/	1	36	11 822 8 620	12 111	-2
Portugal	33	2 385	2 558	-7	32	2 161	2 311	-6	30	22 820	24 159	-6	26	20 600	21 726	-5
Israel	34	2 362	2 682	-12	28	2 333	2 654	-12	33	17 251	17 404	-1	30	16 931	17 088	-1
Philippines	35	2 005	2 167	-7	38	1 589	1 798	-12	31	18 254	18 698	-2	34	13 854	14 913	-7
Finland	36	1 969	2 162	-9	34	1 908	2 091	-9	35	16 389	17 859	-8	31	15 693	17 044	-8
Austria	37	1 893	2 155	-12	35	1 879	2 140	-12	37	14 775	16 464	-10	32	14 644	16 324	-10
Viet Nam	38	1 792	1 716	4	42	1 065	1 114	-4	34	16 473	15 762	5	39	9 530	10 152	-6
Egypt	39	1 670	1 631	2	37	1 624	1 557	4	36	14 801	14 266	4	33	14 344	13 537	6
Bahrain	39	1 670	1 837	-9	36	1 670	1 837	-9	41	12 753	13 656	-7	35	12 753	13 656	-7
Belgium	41	1 543	1 763	-12	39	1 534	1 744	-12	52	7 158	7 690	-7	47	7 158	7 690	-7
Ethiopia	42	1 478	1 399	6	40	1 460	1 384	6	43	9 746	9 303	5	38	9 562	9 147	5
Pakistan	43	1 444	1 579	-9	41	1 256	1 378	-9	39	13 049	13 916	-6	37	11 281	12 075	-7
iran (Islamic Republic	14	1 205	1 175	2	56	5/6	601	0	40	10 9 19	10 000	٨	54	5 / 21	5 000	7
Argentina	44	1 198	1 296	-8	50	730	789	-9 -7	40	12 0 10	13 037	4 -7	48	6 978	7 440	-7 -6
Doru	16	1.025	1 050		40	744	704	2	45	0.000	0 474	4	50	6 400	F 607	40
Peru Sri Lanka	40 47	1 035	1 155	-2	49 41	744 088	1 1 1 5 5	-15 -15	45 ⊿R	9 288 7 750	91/1 0.071	1 _15	52 44	7 750	5 627 0 071	-15
Kenya	48	987	1 021	-10	46	965	1 000	-13	47	7 925	8 047	-13	45	7 695	7 812	-13
Kuwait	49	975	945	3	45	975	945	3	49	7 670	7 368	4	46	7 670	7 368	4
Morocco	50	920	947	-3	47	895	919	-3	44	9 582	9 901	-3	40	9 313	9 611	-3

### 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 2009<sup>1</sup>)


			TONNE-	(ILOMETRE (passengers	S PERFOR	RMED (millions) d mail)				PA	SSENGER-KI	LOMETRES	PERFORM	ERFORMED (millions)			
	(in	Total op ternational	erations and domes	tic)		International	operations			Total o (international	perations and domestic	)		Internation	al operations		
Country or group of countries	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)	
Panama Greece Poland Jordan Mauritius	51 52 53 54 55	894 774 700 687 668	951 1 053 785 719 793	-6 -27 -11 -4 -16	48 55 52 51 53	894 554 681 685 663	951 800 764 718 787	-6 -31 -11 -5 -16	46 50 51 53 56	8 414 7 651 7 169 6 363 5 605	8 970 10 194 7 854 6 400 6 625	-6 -25 -9 -1 -15	43 55 49 50 53	8 414 5 422 6 939 6 346 5 551	8 970 7 618 7 593 6 384 6 569	-6 -29 -9 -1 -15	
Czech Republic Ukraine Uzbekistan Bangladesh Iceland	56 57 58 59 60	597 595 507 435 431	601 655 569 474 502	-1 -9 -11 -8 -14	54 57 58 59 60	594 541 482 433 431	598 602 544 472 502	-1 -10 -11 -8 -14	54 55 57 58 64	6 334 5 958 4 775 4 367 3 632	6 297 6 532 5 507 4 741 3 757	1 -9 -13 -8 -3	51 56 57 58 63	6 307 5 366 4 505 4 344 3 632	6 267 5 945 5 235 4 717 3 757	1 -10 -14 -8 -3	
Oman Cyprus Brunei Darussalam Fiji Algeria	60 62 63 64 65	431 412 399 386 382	359 458 441 424 394	20 -10 -9 -9 -3	62 61 63 64 69	404 412 399 381 326	334 458 441 419 334	21 -10 -9 -9 -2	59 60 67 65 63	4 308 4 163 3 431 3 549 3 814	3 551 4 522 3 725 3 860 3 962	21 -8 -8 -8 -4	60 59 66 65 69	4 016 4 163 3 431 3 501 3 236	3 276 4 522 3 725 3 809 3 340	23 -8 -8 -8 -3	
Romania Hungary Malta El Salvador Tunisia	66 67 68 68 70	377 360 332 332 325	380 381 352 358 343	-1 -6 -7 -5	66 65 67 68 70	359 360 332 331 325	363 381 352 358 343	-1 -6 -7 -5	61 62 69 66 70	3 960 3 843 3 250 3 516 3 220	3 979 4 062 3 436 3 775 3 357	0 -5 -5 -7 -4	62 61 68 64 70	3 762 3 843 3 250 3 511 3 220	3 795 4 062 3 436 3 769 3 357	-1 -5 -5 -7 -4	
Trinidad and Tobago Lebanon Yemen Slovakia Jamaica	70 72 73 74 75	325 313 307 306 295	351 330 315 329 315	-7 -5 -3 -7 -6	70 72 73 74 75	325 313 303 300 295	351 330 311 323 315	-7 -5 -3 -7 -6	71 74 72 68 73	3 106 2 711 3 015 3 379 2 839	3 312 2 727 3 029 3 646 3 027	-6 -1 0 -7 -6	71 74 72 67 73	3 106 2 711 2 969 3 317 2 839	3 311 2 727 2 987 3 578 3 027	-6 -1 -7 -6	
Cuba Kazakhstan Syrian Arab Republic Venezuela Suriname	76 77 78 79 80	261 249 246 239 212	282 268 250 265 229	-7 -7 -2 -10 -7	76 83 77 101 78	246 146 243 91 212	264 160 248 98 229	-7 -9 -2 -6 -7	78 76 77 75 84	2 425 2 570 2 507 2 649 1 749	2 594 2 758 2 519 2 947 1 865	-6 -7 0 -10 -6	76 82 75 92 78	2 316 1 483 2 476 987 1 749	2 469 1 610 2 491 1 052 1 864	-6 -8 -1 -6	
Turkmenistan Bolivia Namibia Nigeria Tajikistan	81 82 83 84 85	185 174 171 169 167	200 190 175 179 136	-7 -8 -2 -6 23	87 85 79 103 81	126 138 168 80 160	137 147 172 82 128	-9 -6 -2 -2 25	80 81 85 82 83	1 955 1 895 1 668 1 873 1 778	2 103 2 050 1 723 1 978 1 458	-7 -8 -3 -5 22	85 81 80 100 79	1 310 1 497 1 640 870 1 701	1 422 1 596 1 693 898 1 375	-8 -6 -3 -3 24	
Seychelles Costa Rica Gabon Latvia Libyan Arab Jamahiriya	86 87 88 89 89	165 156 148 142 142	171 168 157 152 148	-3 -7 -6 -6 -4	80 82 85 84 97	164 154 138 142 96	170 165 146 152 98	-3 -7 -5 -6 -2	89 79 100 88 86	1 428 2 312 931 1 456 1 521	1 474 2 467 966 1 539 1 597	-3 -6 -4 -5 -5	84 77 102 83 97	1 416 2 289 828 1 456 934	1 461 2 440 854 1 539 964	-3 -6 -3 -5 -3	
Sudan Myanmar Angola Azerbaijan	91 92 93 94	140 134 126 122	148 145 135 171	-5 -7 -6 -28	88 96 89 91	121 98 119 110	127 106 127 144	-4 -8 -6 -24	95 87 108 90	1 111 1 470 680 1 274	1 154 1 585 706 1 777	-4 -7 -4 -28	95 89 106 87	956 1 093 605 1 148	986 1 187 624 1 492	-3 -8 -3 -23	
Total for above countries (101) <sup>6</sup>		529 782	553 697	-4		357 874	380 360	-6		4 229 871	4 309 765	-2		2 583 440	2 669 392	-3	
Total for other countries		1 478	1 623			1 306	1 450			14 669	16 135			12 970	14 448		
Total for 190 ICAO Member States		531 260	555 320	-4		359 180	381 810	-6		4 244 540	4 325 900	-2		2 596 410	2 683 840	-3	

Most 2009 data are estimates, thus the ranking and the rate of increase or decrease may change when final data become available.
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), and that of the Taiwan province of China.
Traffic for the Hong Kong Special Administrative Region (SAR).
Traffic for the Macao Special Administrative Region (SAR).
Traffic for the Macao Special Administrative Region (SAR).
Three States – Denmark, Norway and Sweden.
Includes the States listed in note 5.

Source.— ICAO Air Transport Reporting Form A plus ICAO estimates for non-reporting States.



	FREIGHT TONNE-KILOMETRES PERFORMED (millions)										
	Total op	erations (inte	ernational and	d domestic)		Internation	nal operation	S			
Country or group of countries	Rank number in 2009	2009	2008	or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)			
United States	1	35 084	39 372	-11	1	19 937	22 443	-11			
China <sup>2</sup>	2	11 421	11 386	0	4	7 020	7 409	-5			
Hong Kong SAR <sup>3</sup>		8 229	8 988	-8		8 229	8 988	-8			
Macao SAR 4		32	98	-67		32	98	-67			
Republic of Korea	3	8 551	8 727	-2	2	8 480	8 658	-2			
Japan	4	7 018	8 173	-14	6	6 171	7 287	-15			
United Arab Emirates	5	7 551	7 289	4	3	7 551	7 289	4			
Germany	6	6 809	8 353	-18	5	6 801	8 342	-18			
United Kingdom	7	5 864	6 284	-7	7	5 862	6 282	-7			
Singapore	8	5 535	7 310	-24	8	5 535	7 310	-24			
France	9	4 921	6 163	-20	9	4 751	5 973	-20			
Luxembourg	10	4 651	5 358	-13	10	4 651	5 358	-13			
Netherlands	11	3 960	4 645	-15	11	3 960	4 645	-15			
Russian Federation	12	2 306	2 400	-4	16	1 814	1 855	-2			
Thailand	13	2 091	2 289	-9	12	2 059	2 258	-9			
Malavsia	14	2 064	2 444	-16	13	2 031	2 407	-16			
Australia	15	2 032	2 212	-8	15	1 890	2 051	-8			
Qatar	16	1 953	1 639	19	14	1 953	1 639	19			
Brazil	17	1 782	1 807	-1	24	915	900	2			
Canada	18	1 347	1 389	-3	19	1 069	1 102	-3			
India	19	1 235	1 234	0	22	968	984	-2			
Chile	20	1 179	1 308	-10	17	1 129	1 257	-10			
Saudi Arabia	21	1 138	1 383	-18	18	1 072	1 313	-18			
Colombia	22	1 043	1 100	-5	21	996	1 015	-2			
Switzerland	23	1 030	1 182	-13	20	1 030	1 181	-13			
Spain	24	1 002	1 251	-20	23	919	1 119	-18			
Belgium	25	830	997	-17	25	821	979	-16			
New Zealand	26	799	921	-13	26	799	921	-13			
Turkey	27	729	481	52	27	710	442	60			
South Africa	28	652	761	-14	29	601	698	-14			
Israel	29	622	926	-33	28	622	926	-33			
Finland	30	484	543	-11	30	484	542	-11			
Bahrain	31	471	542	-13	31	471	542	-13			
IVIEXICO	32	440	483	-9	33	393	424	-/			
Italy	33	400	1 279	-69	32	399	1 275	-69			
Austria Viet Nam	34	342	421	-19	34	341	421	-19			
Viet Indili	30	311	290	5	42	202	199	1			
	30	303	523	-42	35	300	518	-42			
Portugal	37	301	347	-13	36	287	330	-13			
Kuwait	38	281	280	1	31	281	280	1			
Sri Lanka	39	279	331	-16	38	279	331	-16			
Indonesia	40	277	334	-17	47	145	156	-7			

# 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 2009<sup>1</sup>)



	FREIGHT TONNE-KILOMETRES PERFORMED (millions)											
	Total op	erations (int	ernational and	d domestic)		Internatio	S					
Country or group of countries	Rank number in 2009	2009	2008	Increase or decrease (%)	Rank number in 2009	2009	2008	Increase or decrease (%)				
Kenya Pakistan Ethiopia Philippines	41 42 43 44	272 266 254 227	295 320 228 277 230	-8 -17 11 -18	39 41 40 45	271 237 254 166	295 285 228 220 212	-8 -17 11 -25 13				
Egypt Mauritius Ireland Jordan Argentina	46 47 48 49 50	180 153 121 113 112	195 191 122 141 132	-8 -20 -1 -20 -15	44 46 48 49 50	179 152 121 113 102	195 191 122 141 120	-8 -20 -1 -20 -14				
Brunei Darussalam Iran (Islamic Republic of) Iceland Uzbekistan Fiji	51 52 53 54 55	90 82 77 76 66	104 97 127 72 76	-13 -15 -39 6 -13	51 54 52 53 55	90 71 77 76 66	104 86 127 72 76	-13 -18 -39 6 -13				
Angola Lebanon Gabon Poland Ukraine	56 57 58 59 60	64 63 62 55 53	71 78 68 79 63	-9 -20 -9 -30 -17	56 56 58 59 60	63 63 61 55 52	70 78 68 79 63	-9 -20 -9 -30 -17				
Morocco Trinidad and Tobago Sudan Oman Cyprus	61 62 62 64 65	50 42 42 39 38	55 49 47 20 48	-9 -14 -11 100 -19	61 62 65 63 63	49 42 37 38 38	54 49 41 19 48	-9 -14 -9 100 -19				
Greece Uganda Cuba Yemen	66 67 67 69	31 27 27 26	70 30 32 33	-55 -9 -15 -20	66 67 68 68	30 27 26 26	67 30 30 33	-55 -9 -14 -20				
Total for the above countries (69) $^{\rm 6}$		140 254	156 594	-10		116 728	131 345	-11				
Total for other countries		356	416			322	375					
Total for 190 ICAO Member States		140 610	157 010	-10		117 050	131 720	-11				

Most 2009 data are estimates, thus the ranking and the rate of increase or decrease may change when final data become available. 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), and that of the Taiwan province of China. Traffic for the Hong Kong Special Administrative Region (SAR). Traffic for the Macao Special Administrative Region (SAR). Traffic for the Macao Special Administrative Region (SAR). Three States – Denmark, Norway and Sweden. Includes the States listed in note 5. 1. 2.

3. 4. 5 6

Source.— ICAO Air Transport Reporting Form A plus ICAO estimates for non-reporting States.



	Millions of passenger-kilometres performed												
Category Non-scheduled traffic <sup>1</sup> Annual change(%) Scheduled traffic Annual change(%) Total traffic Annual change(%) Non-scheduled traffic	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009			
Non-scheduled traffic <sup>1</sup>	265 460	272 790	244 930	240 720	266 590	262 560	245 105	241 730	223,360	197 690			
Annual change(%)	11.4	2.8	-10.2	-1.7	10.7	-1.5	-6.6	-1.4	-7.6	-11.5			
Scheduled traffic	1 790 370	1 726 580	1 736 070	1 738 510	2 015 070	2 199 940	2 374 810	2 576 130	2 683 840	2 596 410			
Annual change(%)	10.4	-3.6	0.5	0.1	15.9	9.2	7.9	8.5	4.2	-3.3			
Total traffic	2 055 830	1 999 370	1 981 000	1 979 230	2 281 660	2 462 500	2 619 915	2 817 860	2 907 200	2 794 100			
Annual change(%)	10.5	-2.7	-0.9	-0.1	15.3	7.9	6.4	7.6	3.2	-3.9			
Non-scheduled traffic as percentage of total	12.9	13.6	12.4	12.2	11.7	10.7	9.4	8.6	7.7	7.1			

# Table 7. Estimated international non-scheduled revenue passenger traffic, 2000–2009

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

Source.— ICAO Air Transport Reporting Form A plus ICAO estimates for non-reporting States.



# Table 8. Traffic at world's major airports

Top 25 airports ranked by total passengers, 2009

			Passenge	rs embarked an	d disembarked	Ai	rcraft movemer	its
Rank	0.1		2009	2009	2009/2008	2009	2008	2009/2008
N0.	City	Airport	(thousands)	(thousands)	(%)	(thousands)	(thousands)	(%)
1	Atlanta, GA	Hartsfield-Jakson International	88 032	90 039	-2.2	970	978	-0.8
2	London	Heathrow	66 037	67 055	-1.5	466	479	-2.6
3	Beijing	Capital International	65 375	55 938	16.9	488	430	13.6
4	Chicago, IL	O'Hare International	64 398	70 819	-9.1	828	882	-6.1
5	Tokyo	Haneda (Tokyo International)	61 904	66 736	-7.2	321	339	-5.1
6	Paris	Charles de Gaulle	57 907	60 875	-4.9	525	560	-6.2
7	Los Angeles, CA	Los Angeles International	56 521	59 816	-5.5	545	623	-12.5
8	Dallas/Fort Worth, TX	Dallas-Fort Worth International	56 030	57 093	-1.9	639	656	-2.7
9	Frankfurt	Frankfurt	50 933	53 467	-4.7	463	486	-4.7
10	Denver, CO	Denver International	50 167	51 245	-2.1	612	626	-2.3
11	Madrid	Barajas	48 221	50 809	-5.1	430	463	-7.1
12	New York, NY	John F. Kennedy International	45 915	47 807	-4.0	415	439	-5.4
13	Hong Kong	Hong Kong International	45 559	47 860	-4.8	288	301	-4.3
14	Amsterdam	Amsterdam-Schiphol	43 570	47 430	-8.1	402	442	-9.0
15	Dubai	Dubai International	40 902	37 441	9.2	281	270	4.0
16	Bangkok	Bangkok Suvarnabhumi International	40 500	38 603	4.9	258	249	3.4
17	Las Vegas, NV	Maccarran International	40 469	43 209	-6.3	511	579	-11.7
18	Houston, TX	Houston George Bush Intercontinental	40 007	41 709	-4.1	538	576	-6.6
19	Phoenix, AZ	Sky Harbor International	37 825	39 891	-5.2	457	502	-9.0
20	San Francisco, CA	San Francisco International	37 224	37 235	0.0	380	388	-2.1
21	Singapore	Changi	37 204	37 695	-1.3	245	235	4.3
22	Guangzhou	Guangzhou Baiyun International	37 048	33 435	10.8	309	280	10.2
23	Jakarta	Jakarta Soekarno Hatta International	36 466	32 233	13.1	269	250	7.4
24	Charlotte, NC	Charlotte-Douglas International	34 577	34 739	-0.5	509	536	-5.0
25	Miami, FL	Miami International	33 886	34 064	-0.5	351	372	-5.4
		Total	1 216 677	1 237 243	-1.7	11 502	11 941	-3.7



			Passenge	ers embarked and	d disembarked	A	Aircraft moveme	nts
Rank			2009	2008	2009/2008	2009	2009	2009/2008
No.	City	Airport	(thousands)	(thousands)	(%)	(thousands)	(thousands)	(%)
1	London	Heathrow	60 782	61 492	-1.2	408	412	-1.0
2	Paris	Charles de Gaulle	53 015	55 825	-5.0	429	456	-6.0
3	Hong Kong	Hong Kong International	45 559	47 860	-4.8	288	301	-4.3
4	Frankfurt	Frankfurt	44 521	46 827	-4.9	365	408	-10.5
5	Amsterdam	Schiphol	43 567	47 386	-8.1	391	426	-8.2
6	Dubai	Dubai International	40 104	36 592	9.6	226	203	11.2
7	Singapore	Changi	37 204	37 695	-1.3	240	232	3.4
8	Tokyo	Narita	30 862	32 287	-4.4	171	178	-3.9
9	Madrid	Barajas	29 388	30 430	-3.4	238	252	-5.6
10	Bangkok	Bangkok Suvarnabhumi International	30 280	31 608	-4.2	182	189	-3.7
11	London	Gatwick	28 721	30 457	-5.7	197	208	-5.3
12	Seoul	Incheon International	28 208	29 757	-5.2	194	207	-6.3
13	Munich	Franz Josef Strauss	23 422	24 560	-4.6	267	294	-9.2
14	New York, NY	John F. Kennedy International	21 900	22 401	-2.2	142	144	-1.4
15	Zurich	Zurich	21 409	21 413	0.0	214	214	-0.1
16	Rome	Fiumicino	20 853	21 356	-2.4	170	186	-8.6
17	Dublin	Dublin	19 850	22 558	-12.0	144	168	-14.2
18	Taipei	Taiwan Taoyuan International	19 564	19 754	-1.0	114	118	-3.2
19	Kuala Lumpur	Kuala Lumpur International	19 402	17 837	8.8	136	122	11.9
20	Istanbul	Ataturk International	18 396	17 069	7.8	153	131	17.0
21	London	Stansted	18 061	20 015	-9.8	135	151	-10.6
22	Copenhagen	Copenhagen	17 620	19 413	-9.2	183	207	-11.8
23	Toronto	Lester B. Pearson	17 605	18 472	-4.7	309	321	-3.9
24	Vienna	Vienna International	17 384	19 017	-8.6	217	241	-10.0
25	Brussels	Brussels National	16 770	18 306	-8.4	189	208	-9.3
		Total	724 446	750 385	-3.5	5 702	5 978	-4.6

# Top 25 airports ranked by international passengers, 2009

Source.— ICAO Air Transport Reporting Form I and airport websites.



	Operating	Operating	Opera	ating result	Ne	t result <sup>2</sup>	
Year	revenues USD (millions)	expenses USD (millions)	Amount USD (millions)	Percentage of operating revenues	Amount USD (millions)	Percentage of operating revenues	Income taxes USD (millions)
2000	328 500	317 800	10 700	3.3	3 700	1.1	-2 750
2001	307 500	319 300	-11 800	-3.8	-13 000	-4.2	3 610
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
20083,4	563 600	572 500	-8 900	-1.6	-36 000	-6.4	1 430

# Table 9.Operating and net results1

(scheduled airlines of ICAO Member States)

1. Revenues and expenses are estimated for non-reporting airlines.

 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, particularly the net results, are the small differences between the estimates of large figures (revenues and expenses) and are therefore susceptible to substantial uncertainties.

3. The 2008 operating and net losses included impact of mark to market of fuel hedge contracts, approximately USD 6 billion.

4. The 2008 net loss includes the impact of non cash charges related to equity awards and impairment of intangible assets, approximately USD 14 billion.

Source.— ICAO Air Transport Reporting Form EF plus ICAO estimates for non-reporting States.

# Table 10.Commercial transport fleet1 of ICAO Member States<br/>at the end of each year, 2000–2009

	Т	urbojet	Tu	rboprop	Pisto	on-engined	Total aircraft
Year	Number	Percentage	Number	Percentage	Number	Percentage	all types
2000	16 004	78.2	4 320	21.1	132	0.6	20 456
2001	15 923	78.8	4 162	20.6	118	0.6	20 203
2002	16 508	80.1	3 978	19.3	119	0.6	20 605
2003	16 931	81	3 854	18.4	110	0.5	20 895
2004	17 682	82	3 784	17.5	98	0.5	21 564
2005	18 221	82.7	3 708	16.8	94	0.4	22 023
2006	18 890	83.1	3 765	16.6	86	0.4	22 741
2007	19 893	83.7	3 803	16	80	0.3	23 776
2008	19 884	83.8	3 775	15.9	71	0.3	23 730
2009	20 275	84.1	3 768	15.6	67	0.3	24 110

1. Aircraft having a maximum take-off mass of less than 9 000 kg (20 000 lb) are not included.

Source.— OAG Aviation Solutions.



		Number unlawfu	Number of acts of Number of acts of unlawful seizure facility attack					Number of persons injured or killed during acts of unlawful interference	
Year	Number of acts of unlawful interference	Actual seizures	Attempted seizures	Actual facility attacks	Attempted facility attacks	Number of acts of sabotage	Other acts <sup>1</sup>	Injured	Killed
1989	14	8	4	0	0	2	-	38	278
1990	36	20	12	1	0	1	2	145	137
1991	15	7	5	1	0	0	2	2	7
1992	10	6	2	1	0	0	1	123	10
1993	48	30	7	3	0	0	8	38	112
1994	43	22	5	4	0	2	10	57	51
1995	17	9	3	2	0	0	3	5	2
1996	22	3	12	4	0	0	3	159	134
1997	15	6	5	2	0	1	1	2	4
1998	17	11	2	1	0	0	3	1	41
1999	14	11	2	0	0	0	1	3	4
2000	30	12	8	1	0	0	9	50	58
2001 <sup>2</sup>	24	7	2	7	4	1	3	3 217	3 525
2002	40	2	8	24	2	2	2	14	186
2003	35	3	5	10	0	5	12	77	20
2004	16	1	4	2	2	4	3	8	91
2005	6	2	0	2	0	0	2	60	3
2006	17	1	3	4	0	1	8 <sup>3</sup>	27	2
2007	22	4	2	2	3	0	11	33	18
2008	23	1	6	3	0	0	13 <sup>3</sup>	31	11
2009	23	5	3	1	0	0	14 <sup>3</sup>	4	3

# Table 11. Aviation security

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, is 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 began in December 2007 with an expected duration of 30 months.

#### **Project achievements**

The project assisted MoTCA in the transfer of functions for Kabul Airport from military to civilian control through ICAO experts providing direction and documentation together with the critically needed internationally compliant services by operational assistance (OPAS) personnel. Technical assistance in the areas of aeronautical information services; communications, navigation and surveillance; aerodrome operations; information technology; engineering; meteorology; fire and rescue; air traffic control; and English language proficiency were provided. Forty-one fellowships in various technical aviation disciplines were provided to MoTCA staff together with nearly 1 500 hours of local classroom instruction. National staff recently completed fire officer training and eight Afghan meteorology forecasters began their on-the-job training. Draft aerodrome operations and safety management systems manuals were prepared. Navigation aids, airport firefighting trucks, utility vehicles, aviation training equipment and one armoured truck were procured. ICAO experts facilitated numerous projects at Kabul Airport, from the opening of a new international terminal to the proposed rehabilitation of the domestic terminal. Experts also provided guidance and support in many other disciplines related to the airport authority, the ministry and other stakeholders.



# Flight Safety Oversight

# Project goal

The objective of this project, funded by the Government of Afghanistan, is to enhance the flight safety oversight capability of the Ministry of Transport and Civil Aviation (MoTCA). This project, which commenced operations in September 2008 for a planned duration of 12 months, was extended by three months.

### Project achievements

The project assisted MoTCA to conduct flight operations surveillance and inspection activities, including airline operators and maintenance organizations. Systematic audit data and analysis software were developed with hundreds of inspection items for this purpose. The project produced procedures, systems and manuals to ensure effective application of the flight operations safety oversight functions and the certification of airline operators in Afghanistan. In addition to the support provided to MoTCA, the project assisted Ariana Afghan Airlines in adopting international Standards.

# ARGENTINA

# Modernization of the CNS/ATM Systems and Strengthening of the National Civil Aviation Administration (ANAC)

# Project goal

The objective of this project, funded by the Government of Argentina, is to modernize the communications, navigation and surveillance (CNS) systems which provide the infrastructure for national and regional air navigation. The project aims to support safety oversight and forecast the social, economic and cultural development of civil aviation. This project, which began in September 2004, with an expected duration of two years, was extended until October 2010.

### Project achievements

Twenty contracts were signed for the procurement of systems and equipment which included the purchase of: an AMHS simulator — NOVEQSE Bank; VHF equipment for Rosario EAVA; two automatic pumps; a recorder for Aeroparque; VCCS for Aeroparque; Rosario II EAVA Station; VHF for CIPE and Córdoba; recorders for Ezeiza, CIPE, and Córdoba; Multiplexers; VCCS (voice communication control system) for the Training and Experimental Development Centre; maintenance of Lear Jet T 35; AWOS equipment; information system for recording of aircraft movements; VHF equipment for RANO (Northern Air



Region); VHF equipment; voice switching equipment for the Ezeiza FIR — ARO-AIS; voice switching equipment for the Ezeiza FIR — clearance; DME for the Paraná Airport; GP antennae for the Ezeiza Airport; Tower Control Position for the Merlo Airport; AUTOCAD software for air traffic; WAVIONIX software for air traffic.

## Establishment of a New National Civil Aviation Administration

### 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, including the transfer of all missions and duties performed by the "Comando de Regiones Aéreas de la Fuerza Aérea Argentina". The project, which began in September 2007 with an expected duration of 36 months, was extended through 2010.

### **Project achievements**

The responsibility for civil aviation was handed over from the "Comando de Regiones Aéreas de la Fuerza Aérea Argentina" to the new National Civil Aviation Administration (ANAC). Over 4 000 employees, 60 per cent with military status and 40 per cent with civil status, were transferred to the new organization. Over 120 air traffic controllers were trained in ATS surveillance systems, supervision of an air traffic control unit and airspace planning. A work plan to increase efficiency and safety of the air traffic control system was developed. Electronic office equipment was acquired to develop an automatic management system. The Aeronautical Code was revised and updated. Equipment such as radar, instrument landing systems (ILS) and firefighting vehicles were purchased.

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

#### **Project achievements**

Repairs and modifications were done on existing equipment. An aerodrome transport system and other avionic equipment were acquired.



# BOLIVIA

# Safety Oversight and Air Navigation

# Project goal

The objectives of this project, funded by the Government of Bolivia, are to enable the Directorate General of Civil Aviation (DGCA) to efficiently perform its safety oversight responsibilities and to strengthen the Air Navigation Unit at the National Institute of Civil Aviation. The project, which began in 2004 with an expected duration of five years, was completed in 2009.

### Project achievements

The DGCA committed itself to undertake the implementation of a quality management system based on ISO 9001, with respect to the development of the technical-operational area. The Bolivian Aeronautical Regulations were amended in accordance with ICAO Annexes, as well as with the DGCA Organizational and Functional Manual, Job Description Manual, Guidance Manuals and Administrative Manuals. The Internal Audit Unit issued recommendations for the improvement of DGCA management; implementation of these recommendations increased the level of efficiency for management. The Bolivian Air Navigation Bureau was strengthened through the recruitment of experts in the areas of aerodromes and ground aids, operations, aeronautical information services and air traffic management.

# 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, is 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 with an expected duration of 18 months, was extended through 2010.

### **Project achievements**

With the appointment of the Directors of Flight Safety and Air Transport assigned by ICAO as operational assistance (OPAS) personnel, all 21 positions of the senior management team of the Civil Aviation Authority of Botswana (CAAB) were filled. So far 37 employees out of the 812 former Department of Civil



Aviation employees were recruited as permanent staff for the CAAB. A five-year business plan for the Authority was submitted to the Ministry. Preparation of the Civil Aviation Master Plan is in the final stage of completion. Progress was made in the establishment of an independent aircraft accident and incident investigation entity. The drafts of the Aviation Security Bill 2009 and Civil Aviation Bill 2009 are under preparation. Consultations were held with stakeholders on air navigation regulations, as required by law, and their comments were taken into account. A final draft was submitted to the Minister for the promulgation and publication of related Botswana Aviation Requirements as by-laws.

# BRAZIL

## **Civil Aviation Professional Qualification and Research**

### Project goal

The objective of this project, funded by the Government of Brazil, is to enhance the professional qualifications and research capabilities of the Brazilian civil aviation system through the provision of technical support, human resources, equipment and training to the National Civil Aviation Agency (ANAC). This project, which began in July 2001 for an initial duration of five years, was extended through 2010.

#### **Project achievements**

Training activities were carried out in the fields of safety, management, maintenance, airworthiness, TRAINAIR methodology and other related areas. ANAC personnel participated in meetings, conferences and symposia. A total of 58 international and 350 national missions were carried out, most of which were covered by fellowships programmes. International events were organized incountry with the participation of ICAO experts, including two meetings of the Latin American Civil Aviation Commission (LACAC), a Committee on Aviation Environment Protection (CAEP) Steering Group, an Air Transport Seminar, an ICAONET Seminar, and a Conference on Aviation and Alternative Fuels. Twentysix consulting agencies were contracted to provide support to project activities such as the development of curricula and relevant course manuals, translation of texts and videos on airport noise control from Spanish to English, distance learning courses using TRAINAIR methodology, studies on environment issues at Congonhas Airport and analysis of six airport infrastructure projects. A total of seven course manuals were developed, four on mechanics courses and three on pilot courses.





# 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 2009, with an expected duration of 12 months, was extended to 2010.

# Project achievements

Thirty-two participants were selected from 24 developing countries for training in either the Air Transport Operation Supervisor Workshop or the Basic Approach Radar Control Course, which were conducted at the Civil Aviation Management Institute of China (CAMIC) and the Civil Aviation University of China (CAUC), respectively.

# **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 higher dimension aeroplanes, as well as to meet the demands of the North Pacific Region with regard to wider economic, tourist and commercial development. This project, which began in March 2008 with an expected duration of six months, was extended through December 2010.

# Project achievements

The master plan was completed and sent to the Government of Costa Rica. As a result, the Government of Costa Rica requested ICAO to further expand on this master plan.



# Integral Plan for the Modernization of the National Aerodromes Network

## Project goal

The objective of this project, funded by the Government of Costa Rica, is to develop a modern network of airports for new international and local air transport which includes implementation of a model for modernization of the main domestic aerodromes. Environmental impact studies and socio-economic analyses of previously determined tourist destinations are included in this model. The development of a master plan for the new international airport together with a second phase of airport construction is planned. This project, which began in March 2008 with an expected duration of six months, was extended through December 2010.

### Project achievements

On the basis of an international tendering process, the Director General of Civil Aviation entrusted a company with the development of a master plan for each local airport within the network of airports. A master plan for the new Zona del Sur Airport was presented to the DGCA. Equipment purchased through ICAO's technical cooperation included approach lighting, firefighting vehicles, antivirus software, runway sweepers and aviation security systems.

# Integral Plan for the Modernization of the Directorate General of Civil Aviation (DGCA)

### Project goal

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA), is to strengthen the aeronautical authorities. This project, which began in March 2008 with an expected duration of nine months, was extended through December 2010.

### **Project achievements**

Activities to amend the General Aviation Law and restructure the regulatory body as well as the service provider, as recommended by the Universal Safety Oversight Audit Programme (USOAP), continued. The recruitment process for this mission was initiated and international experts were hired. A draft of the new Civil Aviation Law is in progress.



# DEMOCRATIC REPUBLIC OF THE CONGO

#### **Airports/Airfields Rehabilitation Project**

#### Project goal

The objective of this project, funded by the United Nations Department of Peacekeeping Operations (UNDPKO), is to enhance the aeronautical infrastructure and services at the 13 airports/airfields designated for use by the United Nations Organization Mission in the Democratic Republic of the Congo (MONUC) by providing technical guidance on the rehabilitation of its airports and by carrying out refresher training courses for air traffic controllers. This project, which began in 2003 with an initial duration of 18 months, was completed in April 2009.

#### Project achievements

At the request of MONUC, inspections were conducted to review civil works performed on the runways and determine requirements at the following major airports: Bukavu, Bunia, Goma, Kisangani and Lubumbashi. Recommendations were made to enhance safety operations at these airports and ensure compliance with ICAO Standards and Recommended Practices (SARPs). An updated operations manual was provided to the Regie de Voies Aeriennes (RVA). On-the-job training was conducted in air traffic control centres. In addition, theoretical training courses were provided to air traffic controllers and pilots to familiarize them with Global Navigation Satellite Systems (GNSS) operations. Support was also provided to other UNDPKO missions in the areas of GNSS tender evaluation (African Union/United Nations Hybrid Operation in Darfur (UNAMID) and United Nations Missions in Sudan (UNMIS)), airport construction tender evaluation, GNSS project contract negotiations, airport construction contract and subsequent construction review (UNMIS), including the definition of aviation strategy and preparation of requests for construction proposals (United Nations Mission in the Central African Republic and Chad (MINURCAT).

# DJIBOUTI

# Reinforcement of the safety oversight capability of the Civil Aviation Authority of Djibouti

#### Project goal

The objective of this operational assistance (OPAS) project, funded by the Safe Skies Programme (SSP) for Africa with a contribution from the International Financial Facility for Aviation Safety (IFFAS) and the Government of Djibouti, is to assist the Government in addressing the safety shortcomings identified by the ICAO comprehensive systems approach audit. As a result, an effective system



on performance of certification and surveillance functions in the field of personnel licensing, flight operations and airworthiness will be implemented in Djibouti. The project commenced in April 2009 with an expected duration of one year.

#### Project achievements

One flight operations inspector and one airworthiness inspector were fielded for one year and one legal expert was fielded for two months. A project launch meeting was held at the end of April 2009 during a joint mission undertaken by representatives from ICAO and the United States Department of Transportation (DOT). A draft Civil Aviation Law was developed and is pending ratification. An airworthiness handbook and checklists together with a procedures manual for operations inspection and certification were developed. Two staff members from the Civil Aviation Authority attended both the Global Aviation Safety Plan (GASP) Workshop and the Government Safety Inspector (GSI) Course on Personnel Licensing.

# DOMINICAN REPUBLIC

#### TRAINAIR Programme for the Instituto Dominicano de Aviación Civil (IDAC)

#### Project goal

The objective of this project, funded by the Instituto Dominicano de Aviación Civil (IDAC), is to upgrade and expand the capabilities of the methodological training system of IDAC through the introduction of the ICAO TRAINAIR approach in their training division. The project, which began in 2008 with a planned duration of one year, was completed.

#### **Project achievements**

The TRAINAIR Central Unit (TCU) granted IDAC full membership in the TRAINAIR Programme upon completion of one Standardized Training Package (STP) — Preparation and Processing of the ICAO Flight Plan. The qualified TRAINAIR Course Developers continued to use the TRAINAIR methodology for the development of STPs. IDAC hosted the Eleventh Global TRAINAIR Training Symposium and Conference (GTC/11), which was attended by over 100 participants from 50 States, both Members and non-Members.



# 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; 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 2010.

### Project achievements

ICAO experts provided advice and technical assistance in the procurement process of equipment. The World Area Forecast System (WAFS) equipment maintenance contract was renewed and a new public tender was organized for the purchase of a satellite communication system. Following the implementation of a secondary radar in Galapagos, supporting documents were compiled and a delegation of the DGCA visited ICAO Headquarters to finalize procurement activities.

# **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 and the United Nations Development Programme (UNDP), is to establish an autonomous Civil Aviation Authority, with the appropriate level of staffing and competency for the performance of its security oversight functions in the areas of operations and airworthiness of aircraft and for the licensing of aircraft and flight operations personnel. This project, which began in 2004 with an expected duration of four years, was extended through 2011.

### **Project achievements**

The revised airworthiness and flight operations regulations were finalized taking into account the deficiencies highlighted by the 2007 Universal Safety Oversight Audit Programme (USOAP) audit. A re-certification process of all Equatorial



Guinean air operators was initiated under the supervision of the project team. The aircraft registry was also updated: Certificates of Airworthiness issued by Equatorial Guinea were reviewed and some were suspended. A digital and physical filing system was set up for the Civil Aviation Authority (CAA) Flight Safety Oversight Department, which includes air operators and an aircraft registry. A surveillance programme was developed and implemented by the project team, which provides on-the-job training for CAA national inspectors.

# **FIJI ISLANDS**

### Risk Assessment of Automatic Dependent Surveillance (ADS) System

### Project goal

The objective of this project, funded by the Airports Fiji Limited (AFL), is to assist AFL in assessing the need for a surveillance system that includes risk assessment resulting from a loss in aircraft separation and to consider risk mitigation measures including the provision of an automatic dependent surveillance-broadcast (ADS-B) system. The project, which started in 2009 for a duration of three weeks, was completed.

### Project achievements

One expert was fielded to the Fiji Islands for three weeks. The expert's report was reviewed by ICAO and submitted to the Government of the Fiji Islands.

# 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, is to assist the Government to address safety shortcomings identified by the ICAO comprehensive systems audit conducted in May 2007. The project will be carried out in two phases. First, remedial actions will be taken to mitigate safety concerns. During the second phase, the Civil Aviation Authority will be reinforced to perform its task of safety oversight in the fields of licensing, airworthiness and flight operations. The project, which commenced in November 2008 with a planned duration of one year, was extended through 2010.



# **Project achievements**

During the first phase of the project, international experts provided on-the-job training to national inspectors which enabled the re-certification of the nine air operators in the country based on the Règlements de l'Aviation Civile en Afrique et à Madagascar (RACAM) regulations, which eventually led to the easing of the restrictions imposed on Gabon-registered aircraft entering the European Community airspace. The second phase of the project was dedicated to building up the components of a surveillance system through the development of further in-house training for inspectors. Implementation of a systems approach for recruitment of inspector staff, development of training requirements, provision of advice on training courses and ensuring that adequate funds are obtained for such training was initiated. Job descriptions for the inspector positions were prepared and procedures established for the maintenance of inspector files for accreditation and training purposes. These efforts contributed to a reduction in the number of deficiencies identified in the ICAO USOAP audit in the areas of licensing, airworthiness and flight operations.

# HAITI

# Strengthening of the Civil Aviation Authority

# Project goal

The objective of this project, funded by the Civil Aviation National Office (OFNAC), is to provide the Civil Aviation Authority (CAA) with the necessary assistance to achieve administrative and financial autonomy, review civil aviation laws, modernize communications, navigation and surveillance/air traffic management (CNS/ATM) services, update air navigation regulations and procedures, develop a training plan and establish a national capacity to exercise OFNAC's safety oversight responsibilities. The project began in 2009 with an expected duration of 36 months.

### **Project achievements**

Four missions were carried out by experts in the areas of CNS/ATM and aviation law. A plan was prepared to modernize the CNS/ATM system. Review of the civil aviation law started in order for the project to continue into the next phase.



# INDIA

Techno-economic Feasibility Study for the Establishment of a new International Airport for Chennai including a Study on Dual Airports Operations

#### Project goal

The objective of the project, funded by the Airports Authority of India (AAI), is to prepare a techno-economic feasibility study for the construction of a second international airport at Chennai and includes a study on dual airports operations. The study is to establish a basis for the Government of India to make a decision regarding the construction of a second airport for metropolitan Chennai. The project, which commenced in 2009 with a planned duration of eight months, was extended to 2010.

#### **Project achievements**

A strategy was proposed for the operation of the two airports which includes the issue of split traffic as well as the proposed time frame for the development of the second airport, based on Government plans to expand and modernize the existing Chennai International Airport to its ultimate capacity. Following project approval, ICAO carried out the tendering, and the bid review process was initiated.

#### Aeronautical Study — Gujarat International Finance Tec-City (GIFT)

## Project goal

The objective of this project, funded by the Airports Authority of India (AAI), is to conduct an aeronautical study in accordance with ICAO Annex 14 and PANS-OPS to determine the effects of the planned construction on the safety and regularity of aircraft operations at the Gujarat International Finance Tec-City (GIFT) project in the vicinity of Sardar Vallabhbhai Patel Airport, Ahmedabad. The project, which commenced in 2009 for a duration of two weeks, was completed.

### Project achievements

One expert was fielded to India for two weeks. ICAO reviewed the expert's report and submitted it to the Government of India. A supplementary report was provided on specific aspects related to the study.



# Study on the Establishment of a Civil Aviation Authority of India

# Project goal

The objective of this project, funded by the Directorate General of Civil Aviation, Ministry of Civil Aviation (DGCA/MoCA), is to provide the Government with a study on the conversion of the existing Directorate General of Civil Aviation into an autonomous Civil Aviation Authority (CAA), which would operate in line with ICAO policy on autonomous civil aviation authorities. The project commenced in October 2009 with a planned duration of six months.

# Project achievements

An ICAO expert was fielded to India in October 2009 for one month in order to finalize the study and prepare the draft law.

# Enhancement of Aerodrome Safety Oversight Capability - Phase I

# Project goal

The objective of this project, funded by the Directorate General of Civil Aviation (DGCA) of India, is to enhance the aerodrome safety oversight capability of the aerodrome standards directorate of the DGCA on the effective performance of its safety oversight duties, functions and responsibilities, as well as the implementation of the corrective action plan on the subject of aerodromes and ground aids prepared by the State to address the ICAO USOAP audit observations and recommendations. The project commenced in November 2009 with a planned duration of six months.

### Project achievements

The ICAO aerodrome safety expert commenced the assignment in November 2009.

# 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, 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 February 2009 with an expected duration of three years.

## Project achievements

A project coordinator, one operations expert and two airworthiness experts provided assistance to the DGCA in safety oversight through the training of 20 new part-time operations inspectors and through the provision of courses on crew resource management, human factors, extended twin-engine operations (ETOPS), and safety management system (SMS) audits to approximately 245 personnel. Project personnel assisted the DGCA in the reviewing and processing of civil aviation regulations required to address European Union safety concerns. Project personnel also updated documentation to comply with the ETOPS requirements of ICAO, which included the development of a new advisory circular. This resulted in the removal of four of the State's air carriers from the European Union (EU) ban and a reduction of Universal Safety Oversight Audit Programme (USOAP) audit findings from 121 to 54.

# 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 commenced in June 2009 with a planned duration of two years.

#### Project achievements

The CATT project management adviser assisted in the initial development of a mandate and the organization of the team, to commence work on a programme management plan to upgrade the DGCA's aviation safety oversight capabilities and to provide advice on a variety of related issues.



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# IRAQ

# Civil Aviation Master Plan (CAMP) for Iraq

# Project goal

The objective of this project, funded by the United Nations Development Programme (UNDP), is to establish a sound basis for the rehabilitation, updating and upgrading of the civil aviation sector in a safe, secure and efficient manner, consistent with international requirements and to enable the country to meet its air transport demands and contribute to economic and social development requirements and to promote trade and tourism. The project, which began in mid-2008 with an estimated completion date of July 2009, was completed.

### Project achievements

A team of ICAO experts, covering ten fields related to civil aviation master planning, undertook a fact-finding mission to Iraq and met with Iraqi officials, as well as visited several airports. The Civil Aviation Master Plan was completed in the English language, translated into Arabic and provided to UNDP Iraq.

# **MEXICO**

#### Evaluation of the Air Navigation System in Mexico

### Project goal

The objective of this project, funded by the Government of Mexico and executed through a Trust Fund Agreement, is to carry out an evaluation of the air navigation systems, which involves the Directorate General of Civil Aviation (DGCA) as the supervising entity and the Servicios a la Navegación en el Espacio Aéreo Mexicano (SENEAM) as the air navigation services provider. The evaluation will be carried out in four area control centres and cover the areas of aeronautical information services (AIS), air traffic management (ATM), communications, navigation and surveillance (CNS), service engineering, meteorology (MET), on-board maintenance systems and safety management systems. This project, which began in July 2008 with an expected duration of two months, was extended through December 2009.

### **Project achievements**

An evaluation of the air navigation services provider as well as the DGCA was carried out by four experts in the fields of aeronautical information services, air traffic management, communications/navigation/surveillance, aeronautical meteorology and civil aviation management. An action plan on corrective



measures was prepared to continue with Phase II of the project. This plan resulted in the revision and update of the civil aviation law in order to comply with the Universal Safety Oversight Audit Programme (USOAP) recommendations, as requested by the Civil Aviation Authority (CAA).

## **Course on Airport Certification**

# Project goal

The objective of this project, funded by the Government of Mexico, is to assist the 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 subject of aerodromes, air routes and ground aids based on ICAO Standards and Recommended Practices (SARPs) and 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 with an expected duration of two months, was extended to 2010.

### **Project achievements**

The course was postponed to 2010 due to lack of funding by the DGCA.

# TRAINAIR Programme for the Aeropuertos y Servicios Auxiliares (ASA)

### Project goal

The objective of this project, funded by the Aeropuertos y Servicios Auxiliares (ASA), Mexico, is to upgrade and expand the capabilities of the methodological training system of ASA through the introduction of the ICAO TRAINAIR approach. The project, which began in April 2008 with a planned duration of 12 months, was completed.

### Project achievements

The TRAINAIR Central Unit (TCU) granted ASA full membership in the TRAINAIR Programme as they completed two Standardized Training Packages (STPs). Ten TRAINAIR Course Developers continued to use the TRAINAIR methodology for developing STPs. In addition, two training courses for instructors were delivered.



# NAMIBIA

# Safety Oversight and Security

# Project goal

The objective of this project, funded by the Government of Namibia, is to assist the Directorate of Civil Aviation (DCA) in the reinforcement of its safety and security oversight capabilities. It comprises an assessment phase to identify remaining shortfalls after the ICAO Universal Safety Oversight Audit Programme (USOAP) audit conducted in 2006, followed by the implementation of corrective actions to address these shortfalls, and a second phase to establish a sustainable certification and surveillance system. The project, which commenced in 2009 with an expected duration of four months, was extended through 2010.

### Project achievements

An assessment of the various technical areas of the DCA confirmed the shortfalls already identified in the ICAO 2006 USOAP report. Assistance was provided to the DCA inspectors to audit several Namibian operators and the airport safety and security systems. Routine tasks were undertaken to review and approve manuals and carry out inspections and audits. Tasks were evaluated and a work plan was developed to address the review of the basic law and regulations, the recruitment and training of technical staff and the establishment of an autonomous Civil Aviation Authority (CAA). Synergy was encouraged within the Cooperative Development of Operational Safety and Continuing Airworthiness Project (COSCAP) in the Southern African Development Community (SADC) with respect to the review of regulations as well as the development of a training plan which encompassed all fields of expertise represented in the project. Onthe-job training was provided to national inspectors in performing routine oversight functions.

# NEPAL

# **Contract Negotiation Support**

# Project goal

The objective of this project, funded by the Civil Aviation Authority of Nepal (CAAN), is to assist CAAN in their contract negotiations with a company in the Democratic People's Republic of Korea for a detailed feasibility study of a second international airport in Nepal to be developed under a built-own-operate-transfer (BOOT) arrangement. The project, which started in 2009 with an expected duration of one week, was completed.



#### **Project achievements**

A team of ICAO experts analysed the documentation provided by CAAN, prepared reports which were reviewed by ICAO and submitted to the Government of Nepal. A proposal by ICAO to provide further assistance on the subject was submitted.

# NICARAGUA

# Development of Airports in the Region Ruta del Agua

#### Project goal

The objective of this project, funded by the Government of Nicaragua and developed through funds from the Inter-American Development Bank (IDB), is to determine the location and construction of two new airports in the southern part of the country aimed at providing the region with an alternative to the fluvial transportation system. In addition, the socio-economic development in the region would be stimulated through ecotourism. This project, which began in October 2008 with an expected duration of four months, was extended through December 2009.

#### **Project achievements**

Studies were conducted for site selection, master plans and detailed engineering designs for aerodromes in San Juan de Nicaragua and San Carlos, in full compliance with project goals and objectives. The two identified sites were Greytown for San Juan de Nicaragua and Santa Fe for San Carlos. A proposal was submitted by ICAO, as requested by the Ministry of Tourism of Nicaragua, to extend this project for the construction of a first phase of the airport in San Juan de Nicaragua, taking into consideration the Nicaraguan Government's budgetary constraints.

# 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 2010.

## Project achievements

In order to address staff shortages in the Directorate, two additional Flight Operations Inspectors joined the project as ICAO experts and operational assistance (OPAS) personnel and contributed to improved oversight functions in the form of audits and inspections over the growing fleet of Omani operators. The Licensing Section and Air Traffic Control were adequately staffed with competent personnel and achieved their performance objectives. Ongoing development of civil aviation regulations and procedures in compliance with ICAO Standards and Recommended Practices (SARPs) progressed.

# PAKISTAN

# Feasibility Study for the Upgrading of ATC Radar Network

# Project goal

The objective of this project, funded by the Pakistan Civil Aviation Authority (PCAA), is to carry out a feasibility study evaluating the options available to PCAA for the upgrade or replacement of the existing radar system. The project, which started in 2009 with an expected duration of one month, was completed.

### Project achievements

An ICAO communications, navigation and surveillance/air traffic management (CNS/ATM) system expert was fielded to PCAA for one month. ICAO reviewed the expert's report which was submitted to the Government of Pakistan. A proposal for ICAO to provide further assistance on the subject was submitted.

# PANAMA

### 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). This project, which began in 2003 with an initial duration of 12 months, was extended through 2009.

#### Project achievements

Training on Safety Management Systems (SMS) was delivered to more than 175 workers of Tocumen International Airport. The safety and efficiency of aircraft operations was assessed and solutions were proposed, in accordance with ICAO SARPs, for the construction of the northern pier. Two pump vehicles were acquired and several electric generators were installed. The maintenance services contract, which included boarding gates, luggage conveyor belts and the acquisition of spare parts for equipment, was extended.

# 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 to acquire the 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 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**

Topographic satellite navigation equipment was purchased for horizontal and vertical geodetic surveys of aerodromes and other parts of the country. Progress was made in training for the implementation of a quality management system for meteorological and aeronautical information services, based on ISO 9901:2008 and ICAO Standards and Recommended Practices (SARPs). New personnel were trained in specialized aeronautical techniques and aeronautical personnel were trained in current civil aviation techniques. The project also hired 53 local professionals to provide consultancy services for the development of civil aviation in Panama.



# PARAGUAY

## Support of the National Directorate of Civil Aeronautics (DINAC)

# Project goal

The objective of this United Nations Development Programme (UNDP) project of national execution, funded by the Government of Paraguay, is the institutional strengthening and capacity development of the National Directorate of Civil Aeronautics (DINAC) to provide air navigation services, as well as the modernization of the air navigation infrastructure in accordance with ICAO Standards and Recommended Practices (SARPs) and the Regional Air Navigation Plan. This project, which began in 2004 with an expected duration of one year, was extended through 2009.

### Project achievements

Project activities focused on the modernization of aeronautical and airport facilities. Installation of VHF-AM band transceivers for air traffic and an air radio modem for weather stations were installed; major contracts for a runway lighting system at Silvio Pettirossi International Airport were completed; and English language courses for DINAC technical staff were conducted.

# PERU

### Institutional Strengthening of the DGCA — Phase II

# Project goal

The objective of this project, funded by the Government of Peru, is to strengthen the Directorate General of Civil Aviation (DGCA) to develop technical standards and professional performance in the fields of air navigation, security and safety, so as to foster civil aviation air transport as an instrument of economic development. This project began in December 2007 with an expected duration of three years.

### Project achievements

DGCA technical staff received training in the fields of safety oversight, airworthiness, operations, licensing and incident and accident data management, air navigation quality assurance, aviation security (AVSEC) matters, dangerous goods, and aerodrome certification.



# 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 radar system (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

A study to renew the ACC was initiated, the process for acquisition of a secondary surveillance radar was started, area navigation/required navigation performance (RNAV/RNP) procedures and air traffic control (ATC) automation were developed, specifications were prepared for the procurement of equipment and services, a bid evaluation was completed and a contract was signed with the successful tenderer.

# PHILIPPINES

# Improvement of Aviation Safety in the Philippines by enhancing the capability of ATO in safety oversight

### Project goal

The objectives of this project, which is funded by the Civil Aviation Authority of the Philippines (CAAP) and executed through a Trust Fund, are to improve aviation safety by enhancing the capability of the CAAP in safety oversight through updated regulations and procedures; to increase the availability of well-trained and qualified inspectors and surveyors; and to enhance organizational authority and autonomy to achieve effective safety oversight of air operators, aircraft maintenance organizations, aerodromes and air traffic services, together with the enforcement of safety regulations, procedures and application of the ICAO Global Aviation Safety Plan (GASP) principles. This project began in May 2008 with an expected duration of 24 months.

#### Project achievements

The project continued with the development of civil aviation regulations (CARs) on aerodrome certification, operation and maintenance of aircraft and the transport of dangerous goods. Also developed were certification standards and



inspector handbooks, to assist in presentations to the industry and advise key personnel of the new CAAP administration on essential challenges that may arise during re-certification of international and domestic operators, training organizations and maintenance organizations according to the new standards. Corrective action plans as well as numerous CARs, handbooks, procedures and forms were prepared to address safety oversight requirements of the European Union, the United States Federal Aviation Administration and ICAO. CAAP staff was trained on new regulations and procedures. The project also assisted with the selection and hiring of potential inspectors and helped CAAP inspectors with initial inspections and audits.

# Aeronautical Study Bagong Nayong Pilipino Entertainment City, Manila, Philippines

# Project goal

The objective of this project, which is funded by the CAAP, is to conduct an aeronautical study to establish the maximum construction height at Bagong Nayong Pilipino Entertainment City which would ensure the safe operation of aircraft at the Manila Ninoy Aquino International Airport (NAIA). This project, which started in 2009 with an expected duration of one month, was completed.

### Project achievements

An instrument procedure design expert was fielded to Manila for two weeks. ICAO reviewed the expert's report and submitted it to the Government.

### Assistance to CAAP with Aeronautical Study

### Project goal

The objective of this project, which is funded by CAAP, is to conduct an aeronautical study to establish the maximum construction height in the vicinity of Diosdado Macapagal International Airport which would ensure the safe operation of aircraft at the airport. On-the-job training to counterpart officials was provided. This project, which started in 2009 with an expected duration of two months, was completed.

### **Project achievements**

A team of ICAO experts was fielded to the Philippines for four weeks. ICAO reviewed the experts' report and submitted it to the Government.



# QATAR

### **Airport Development**

# Project goal

The objective of this project, funded by the Government of Qatar, is 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 2010.

# Project achievements

Advice was provided to the NDIA Steering Committee regarding the selection of contractors and suppliers in the fields of master planning and civil aviation/airport management with regard to construction of the new airport. The Committee reviewed the proposed concepts and design for all facilities from a technical and management perspective.

# **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 to assist the Civil Aviation Safety Authority (CASA) and the Civil Aviation Training Centre (CATC) in the administration of a programme to train participants from developing countries selected by the CATC. This assistance covers the distribution of related information to ICAO Member States and the issuance of letters of fellowship awards and letters of rejection. The project commenced in July 2007 and has a proposed duration of three years.

# Project achievements

Forty-five fellowship awards for courses on Doppler very high frequency omnidirectional radio range (DVOR) maintenance, global navigation satellite systems (GNSS) and/or radar approach control were issued by ICAO to participants from 34 developing countries for training conducted at the Civil Aviation Training Centre.



# ICAO Assistance to Ministry of Land, Transportation and Maritime (MLTM) Affairs with CNS Expert

# Project goal

The objective of this project, which is funded by the Ministry of Land, Transportation and Maritime (MLTM) Affairs, formerly the Civil Aviation Safety Authority of the Republic of Korea (KCASA), is to provide lectures on the global navigation satellite system (GNSS), performance-based navigation (PBN), Annex 10 amendments and related topics. The project, which began in 2009 with a duration of one month, was completed.

### Project achievements

A communications, navigation and surveillance (CNS) expert was fielded to the Republic of Korea to provide the required lectures.

# SAUDI ARABIA

### **General Authority of Civil Aviation**

## Project goal

The objectives of this project, funded by the Government 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 2010.

### Project achievements

Twenty-four international experts worked on this project during 2009, providing consultancy services to project managers and Saudi Arabian counterparts as required. Project activities included an overall inspection of new aircraft of Saudi Arabian Airlines and Saudi Royal Flight to ensure compliance with Standards and Recommended Practices (SARPs) and procedures, as well as regular 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. Based on these ongoing training efforts, GACA succeeded in filling additional posts with qualified Saudi Arabian nationals. In addition, technical advice was provided in the field of airport engineering to assist in the review of current and future projects.

# SINGAPORE

# ICAO/Singapore 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 related information to ICAO Member States and the issuance of letters of fellowship awards and letters of rejection. The project, which began in 2009 with an expected duration of 12 months, was extended through the beginning of 2010.

## Project achievements

Eighty-nine participants from 46 developing countries were selected for participation in the eight courses which were conducted in civil aviation management, communications, navigation and surveillance/air traffic management (CNS/ATM) technologies (including latest developments in global navigation satellite system/automatic dependent surveillance-broadcast (GNSS/ADS-B)), safety oversight airworthiness/flight operations inspectors, ICAO safety management systems, safety oversight managers, State Safety Programme, integrated safety management systems or aircraft accident investigation and management.

# Singapore/ICAO Developing Countries Training Programme – 50th Anniversary

### Project goal

The objective of this project, which is funded by the Civil Aviation Authority of Singapore (CAAS), is for ICAO to assist in the administration of a programme to train 50 participants from developing countries in addition to the established Developing Country Training Programme, as selected by the Singapore Aviation



Academy (SAA). The assistance covers the distribution of related information to ICAO Member States and issuance of fellowship awards letters and rejection letters. The project, which began in 2009 with an expected duration of 12 months, was extended through the beginning of 2010.

# Project achievements

Eighty-seven participants from 47 developing countries were selected for participation in the eight courses that were conducted at the Singapore Aviation Academy.

# Wildlife Management Programme Review

# Project goal

The objective of this project, funded by the Changi Airport Group (CAG), Singapore, is to assist CAG with a review of the existing wildlife management plan, the wildlife inspection regime and checklist template to enable the systematic collection of information on wildlife activity at Changi Airport. This project, which started in 2009 for a duration of one month, was completed.

# Project achievement

An expert was fielded to Singapore to assist in the review.

# SOMALIA

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

### Project goal

This project, which is funded entirely 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 for an initial duration of seven years, was initially extended through 2006. Due to the continuing instability and non-availability of a functional national government, the project was extended through 2010.

#### Project achievements

The project continued to assist in the management and administration of the Civil Aviation Caretaker Authority of Somalia (CACAS) in coordination with the United Nations Resident and Humanitarian Coordinator in Somalia and the ICAO Regional Director, Eastern and Southern African (ESAF) Office. CACAS continued to provide flight information services (FIS), including aeronautical information services (AIS), aeronautical communications (AEROCOM) and aeronautical meteorological (AEROMET) services on a 24-hour basis to flights over Somalia airspace from the project office located in Nairobi. It continued to provide aerodrome flight information services (AFIS), rescue and firefighting and ground marshalling services at Hargeysa, Berbera and Bosasso airports. It also operated AEROCOM substations at Hargeysa and Garowe airports, as well as an AIS briefing office at Hargeysa Airport. Eleven fellowships were awarded for training in various fields of aviation, namely Information Technology in A+, Cisco Certified Network Associate and Internet Security, Aviation Security and a Junior Airport Fire Officer Course (Zambia). Out of the 11 fellowships, nine were awarded to Somali nationals. CACAS continued to support local authorities, the United Nations Development Programme (UNDP) and other United Nations agencies with technical expertise and short-term assignments for airport assessments. Assessments were carried out at the new Garowe airfield, as well as in Hargeysa and Bosasso.

#### SOUTH AFRICA

#### Assistance to the South African Civil Aviation Authority in Flight Safety Oversight

#### Project goal

The objective of this project, which is funded by the South African Civil Aviation Authority (SACAA), is to assist in the augmentation of its capabilities to provide an acceptable level of flight operations/safety oversight. The project, which began in May 2007 with an expected duration of 18 months, was completed in October 2009.

#### **Project achievements**

Based on the United States Federal Aviation Administration's (FAA) follow-up audit, the project focused on the review and revision of the South African aviation



regulations and all associated technical standards and guidance documents. Furthermore, an inspector "buddy" system was developed allowing, where feasible, inspectors with limited expertise or experience to provide supervised support to the principal inspectors. Assistance was given by the project team to adjust the Master Surveillance Plan (MSP) to accommodate the increased work force and allow for the supervised participation of more junior inspectors.

#### **SRI LANKA**

#### **TRAINAIR Programme for the Civil Aviation Training Centre**

#### Project goal

The objective of this project, funded by Airport and Aviation Services of Sri Lanka Ltd., is to upgrade and expand the capabilities of the Civil Aviation Training Centre (CATC) of Sri Lanka through the introduction of the ICAO TRAINAIR methodology. The project began in 2006 with a planned duration of four years.

#### Project achievements

The ICAO TRAINAIR expert continued to provide assistance and guidance.

#### THAILAND

#### ICAO/Thailand Developing Countries Training Programme

#### Project goal

The objective of this project, which is funded by the Civil Aviation Training Centre (CATC) of Thailand, is to assist in the programme administration to train participants from developing countries selected by the training institute. The assistance covers the distribution of training information to ICAO Member States and the issuance of fellowship awards letters and rejection letters. The project, which began in 2009 with an expected duration of twelve months, was completed.

#### Project achievements

One hundred and eighty-one participants were selected from 44 developing countries for courses conducted in the fields of communications, navigation and surveillance/air traffic management (CNS/ATM), technologies for air traffic service managers, safety management systems, aviation security management, English for the aviation industry, Human Factors for operational personnel, meteorology for aviation personnel and aviation English language proficiency interviewer/rater.



### Revised Master Plans for Suvarnabhumi and Don Muang International Airports

#### Project goal

The objective of this project, funded by the Airports of Thailand (AOT) Public Company Limited, is to provide revised forecasts and other planning parameters described in the airport master plan to the decision-makers in AOT and public administrations concerned. The project, which began in 2007 for an initial duration of four months, was extended twice. A third extension into 2010 is being discussed.

#### Project achievements

Under this project, the master plans for Suvarnabhumi and Don Muang Airports were reviewed and revised on the basis of a dual airport operations scenario within the Bangkok metropolitan area. Upon receipt of these plans, AOT requested a revised master plan for Suvarnabhumi Airport based on it becoming a single airport operating in the Bangkok metropolitan area.

#### VENEZUELA

#### **Strengthening Human Resources**

#### Project goal

The objective of this project, funded by the Government of Venezuela, is to provide technical assistance to strengthen the Human Resources Management of the National Institute of Civil Aeronautics of Venezuela (INAC), through training, implementation of work methods, and recruitment, in its role as aviation authority and air navigation services provider. The primary focus is on development and implementation of corrective actions in the short to medium terms, as well as standardization and implementation of efficient and effective processes in the long term, in order to meet INAC's requirements in the area of human resources. This project, which began in 2006 with an expected duration of nine months, was extended through 2009.

#### **Project achievements**

Courses were conducted in the areas of safety management systems (SMS), State Safety Programme (SSP), quality audits, internal auditor, air traffic safety electronic personnel (ATSEP) certification, and the Universal Safety Oversight Audit Programme (USOAP), in which more than 200 officials, including technicaloperational and administrative personnel of INAC, received training. The selection process of air traffic controllers was achieved through the introduction



of new methodology and assessment tools. The competency profiles for technical positions were updated, generating the new Position Manual which resulted in the re-classification of 300 technicians, salary increases, and an increase in compensation equity and personnel retention. The Standardized Training Package (STP), including a training manual for the maintenance of (extended range) radio equipment, was developed through the TRAINAIR methodology to train maintenance personnel.

#### Modernization of Airports and Air Traffic Control

#### Project goal

The objective of this project, funded by the Government 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. This project, which began in 2004 with an expected duration of four years, was extended through 2009.

#### Project achievements

The installation of equipment for communications, navigation, and surveillance, including three radars, as well as two new and one reconstructed approach control centres continued under the project. One centre received very small aperture terminal (VSAT) equipment and two satellite stations were completed. One instrument landing system, three VHF omnidirectional radio ranges/distance measuring equipment (VOR/DME) and two mobile control towers were installed and an ATS message handling system (AMHS) was acquired. One passenger boarding bridge was installed at the Simón Bolívar International Airport in Maiquetía.

### Implementation of the TRAINAIR Methodology at the Instituto Nacional de Aeronáutica Civil (INAC)

#### Project goal

The objective of this project, funded by the National Institute of Civil Aeronautics (INAC) of Venezuela, is to enhance the course development and delivery capabilities of the Civil Aviation Training Centre "Miguel Rodríguez" through the implementation of the TRAINAIR methodology in its training division. The project, which began in 2007 with a planned duration of 12 months and was extended through 2009, was completed.



#### Project achievements

One expert was fielded to the training centre to implement the TRAINAIR methodology through the Course Developer Workshop, deliver the instructor training programme and provide on-the-job training during the development of two new Standardized Training Packages (STPs).

#### YEMEN

## TRAINAIR Programme for the Civil Aviation and Meteorology Institute (CAMI)

#### Project goal

The objective of this project, funded by the Civil Aviation and Meteorology Authority (CAMA) of Yemen, is to upgrade and expand the capabilities of the methodological training system of the Civil Aviation and Meteorology Institute (CAMI) through the implementation of the TRAINAIR Programme. The project, which began in December 2008 with a planned duration of one year, was completed.

#### Project achievements

The TRAINAIR Central Unit (TCU) granted CAMI full membership in the TRAINAIR Programme upon completion of one Standardized Training Package (STP). Six TRAINAIR Course Developers were qualified and continue to use the TRAINAIR methodology for the development of STPs.





#### INTER-COUNTRY AND INTER-REGIONAL LISTINGS

#### **AFRICA REGION**

Cooperative Arrangements for the Prevention of Spread of Communicable Disease through Air Travel (CAPSCA) — Africa Region

#### Project goal

The objective of this project, funded by the United Nations Central Fund for Influenza Action (CFIA), is to reduce the risk of spreading Avian influenza and similar communicable diseases by air travellers, through cooperative arrangements between the participating States and their administrations (Chad, Cameroon, Cape Verde, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Kenya, Nigeria and South Africa). The CAPSCA project provides assistance to States to enable them to comply with Article 14 of the *Convention on International Civil Aviation*, "Prevention of spread of disease". In addition, ICAO Annex 9 — *Facilitation*, paragraph 8.16, requires States to establish a national aviation plan in preparation for an outbreak of a serious communicable disease. The project, which commenced in March 2008 for an initial expected duration of 12 months, was extended through 2011.

#### Project achievements

Two Regional Coordinators based in Africa were recruited. The First Steering Committee Meeting (SCM) of the CAPSCA project was attended by representatives of States and administrations, including Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Kenya, Nigeria, Singapore and South Africa, the World Health Organization (WHO), the United Nations Office for the Coordination of Humanitarian Affairs, the World Food Programme, as well as observers from the public health departments, airports and airlines. The international airports of Abuja, Lagos, Cape Town and Johannesburg were evaluated following priorities set forth by the SCM. Furthermore, the First Regional Medicine Aviation Team Meeting took place, having the same attendance as that of the Steering Committee Meeting.

Cooperative Development of Operational Safety and Continuing Airworthiness Project in the Banjul Accord Group (COSCAP-BAG) — Member States and a Feasibility Study on its Institutionalization

#### Project goal

The objectives 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 donors, are to enhance the



safety and efficiency of air transport operations through the establishment of a regional core of highly qualified safety inspectors for certification, continuous surveillance, audit and training activities; the development of harmonized aviation laws, regulations, certification/surveillance procedures; and the provision of assistance to States in the conduct of safety oversight activities, as required, in order to determine the feasibility of establishing COSCAP-BAG as a regional safety organization — BAG Aviation Safety Oversight Organization (BAGASOO). This project, which began in 2005 with an initial expected duration of 24 months, was extended to 2010.

#### **Project achievements**

The composition of a Flight Safety Working Group (FSWG) was expanded by the recruitment of an aerodrome certification and safety expert and a regional inspector. A Memorandum of Understanding (MoU) was signed in respect of the newly-introduced Cooperative Inspectorate Scheme (CIS), to enable the creation and use of a larger and more stable pool of safety inspectors. Approval was given for the establishment of Phase II of the Government Safety Inspector (GSI) training programme. The airworthiness and flight operations inspectors' generic handbooks and related guidance material were completed. Significant progress was made by some BAG Member States in the alignment of their existing regulations with the already developed COSCAP-BAG generic regulations. The BAG Regional Aviation Safety Team (RAST) held two meetings. In collaboration with the Africa-Indian Ocean (AFI) Comprehensive Implementation Programme (ACIP), a series of gap analyses were conducted in BAG to determine the support required by States to meet their aviation safety obligations. Memoranda of Understanding were signed to establish the BAG Aviation Safety Oversight Organization (BAGASOO) and the BAG Accident Investigation Agency (BAGAIA).

#### Cooperative Development of Operational Safety and Continuing Airworthiness Project in the Member States of the Economic and Monetary Community of Central Africa (COSCAP-CEMAC)

#### 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 (DGCA), 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, has an expected duration of 36 months.

#### Project achievements

The Steering Committee defined the main activities to be carried out in 2009. A situation analysis and activity plan was developed following visits to Member States. During its constitutional meeting, the Flight Safety Working Group (FSWG) adopted the terms of reference and internal regulations. The revision of the CEMAC civil aviation code, the details of the regulations corresponding to ICAO Annexes 1, 6, and 8, and the generic manuals for operations and for airworthiness, was initiated. The Steering Committee made available 91 mandays to assist Member States, particularly Chad, Congo and Sao Tome and Principe. The COSCAP project team participated in the gap analyses carried out within the framework of the AFI Comprehensive Implementation Plan in Cameroon, Central African Republic, Chad, Congo and Gabon.

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

#### 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), is to establish a semi-permanent or permanent regional cooperative organization referred to as the SADC Aviation Safety Organization (SASO) whose mandate is to carry out the full range, or part as required, of certification and surveillance functions on behalf of SADC Member States and to establish a training resource centre in these areas. This project, which began in April 2008, has an expected duration of 36 months.

#### **Project achievements**

An electronic database was developed for SADC State inspectors to track implementation of the comprehensive inspector training plan. On-the-job and formal training of inspector personnel were conducted. Generic air navigation regulations which reflect the most current amendments to ICAO Annexes 1, 6, and 8 as well as generic technical procedures were developed. A Flight Safety Working Group (FSWG) was established for the purpose of reviewing the generic



regulations and procedures and States were provided with a step-by-step process for incorporating the provisions of the generic documents into the State's national regulations and procedures.

Cooperative Development of Operational Safety and Continuing Airworthiness Project in the Member States of the West African Economic and Monetary Union (COSCAP-UEMOA)

#### Project goal

The objectives of this project, funded by UEMOA Member States (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo), Mauritania, the African Development Bank (ADB), The Boeing Company, 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 (CAAs) 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 2010.

#### Project achievements

The Steering Committee prioritized the provision of assistance to UEMOA Member States and the training of national and regional inspectors. In this respect, assistance was provided to Benin, Burkina Faso, Guinea-Bissau and Mali in the finalization and subsequent implementation of their Corrective Action Plans as well as in routine safety oversight tasks. COSCAP UEMOA also participated in joint ICAO/European Aviation Safety Agency (EASA) assistance missions in the UEMOA Member States. Regional and national inspectors participated in seminars and workshops organized by the AFI Comprehensive Implementation Plan (ACIP). In addition, regional inspectors participated in the gap analysis conducted by the ACIP in the UEMOA Member States. Two Flight Safety Work Group (FSWG) meetings were held in Ouagadougou during which the regional personnel licensing, flight operations and airworthiness regulations were reviewed and finalized prior to adoption. The COSCAP website was updated on a regular basis to share information with the aviation community.



## Cooperative Development of Aeronautical Meteorology Services in the WACAF Region — Phase I (CODEVMET-WACAF-Phase I)

#### Project goal

The objective of this project, which comprises the first phase of a cooperative development project funded by the International Financial Facility for Aviation Safety (IFFAS) for the enhancement of aviation safety through improvement in the capability of nine Western and Central African (WACAF) States (Cape Verde, Democratic Republic of the Congo, Gambia, Guinea, Guinea-Bissau, Liberia, Nigeria, Sao Tome and Principe and Sierra Leone), is to regulate and/or provide aeronautical meteorological services. This project, which began in September 2009 with an expected initial duration of 45 days, was completed.

#### Project achievements

The aviation meteorology facilities and services of participating States were evaluated. Action plans were developed for each State, 68 in-country proposals were provided; 46 safety and efficiency-related aeronautical meteorology deficiencies were identified and prioritized, and a set of 16 important recommendations was developed to form guidelines for a follow-up project.

#### AMERICAS REGION

### 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 with an expected duration of two years, was extended through December 2010.

#### Project achievements

Support was provided through numerous activities such as administrative management training, meetings, seminars, processing of fellowships and travel arrangements.



New Management Model for Central American Institute of Aeronautics Training (ICCAE) and Aeronautics School of the Central American Corporation for Air Navigation Services (COCESNA)

#### Project goal

The objective of this project, which is funded by COCESNA, is to develop a new management model for ICCAE in order to promote the direct management of services and the products portfolio, as well as to recruit highly-qualified instructors in order to establish plans/programmes directed towards competitions for accreditations and certifications for global level placement. This project began in June 2008 and was completed in June 2009.

#### **Project achievements**

The new ICCAE management model for the COCESNA Training Institute, which allows for the maintenance of an active revenue-generating mechanism, was accepted by the Civil Aviation Authority. An action plan for its application in accordance with the Strategic Plan of COCESNA was developed.

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, Brazil, Chile, Colombia, Ecuador, France, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela, is to establish a multinational mechanism to manage the 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 (FASID) for the CAR/SAM Region. This project, which began in 2003 with an expected duration of five years, was extended through 2011.

#### **Project achievements**

This regional project continued to efficiently manage the REDDIG network and direct the satellite segment providing all Member States with a sound and reliable system. An agreement for the interconnection of REDDIG and Caribbean MEVA II network was signed. Training courses on satellite communications and



REDDIG operations were delivered to technical staff from 54 States; 20 fellowships were provided to facilitate participation. Most of the project's Member States already implemented their automatic message handling systems and started message exchange trials through the REDDIG network. A new project for REDDIG and the Central American Corporation for Air Navigation Services (COCESNA) network interconnectivity was developed.

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 Bolivia, Chile, Colombia, Cuba, Spain, Venezuela 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 CAR/SAM Region, taking into account the evolutionary development of the GNSS, recommendations of the Eleventh Air Navigation Conference (AN-Conf/11) and the conclusions of the CAR/SAM Regional Planning and Implementation Group (GREPECAS). This project, which began in 2003 with an expected duration of four years, was extended through June 2011.

#### Project achievements

SACCSA Project Phase III-A was launched, the bidding process for the work packages of this phase was completed and the studies were entrusted to the winning business consortium. COCESNA contributed to the design and verification of GNSS-based area navigation/required navigation performance/non-precision approach (RNAV/RNP/NPA) procedures. Costa Rica and Guatemala joined the project. Discussions were held with the Latin American Air Transport Association (ALTA) to also join.

# Air traffic management (ATM) operational concept and the corresponding technological support for communications, navigation and surveillance (CNS)

#### Project goal

The objectives of this project, which is funded by the Governments of Argentina, Bolivia, Brazil, Chile, Panama, Peru, Paraguay, Uruguay and Venezuela, 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 systems to a system based on aircraft performance; the implementation of



aeronautical information services (AIS) 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 CAR/SAM Region to facilitate the exchange of information and collaborative decision-making with respect to all components of the ATM system. This project began in 2007 with an expected duration of five years.

#### **Project achievements**

Project activities continued to include the development of action plans for: implementing performance-based navigation (PBN) in continental area navigation (RNAV 5), the terminal area and approaches; air traffic flow management (ATFM); improvements in communications, navigation and surveillance (CNS); interconnection of automated air traffic management (ATM) in area control centres; automatic dependant surveillance-broadcast (ADS-B) trials; and interconnection of the ATS message handling system (AMHS). In addition, guidance material was developed to optimize the ATS route network and its associated action plan in the SAM Region. An Air Traffic Flow Management Manual was developed and approved by the SAM Implementation Group together with guidance material for the implementation of a common methodology for calculating airport and air traffic control (ATC) sector capacity. The project awarded 25 fellowships for participation in two SAM Implementation Workshops. Fourteen fellowships each were awarded for courses on the methodology for calculating airport and ATC sector capacity, on required navigation performance (RNP) and area navigation (RNAV) procedure design, and on RNP authorization required approach (AR APCH) procedure design. A model Memorandum of Understanding (MoU) and an initial guide for automatic message handling system interconnection was drafted. ADS-B trials were completed. An initial database with detailed information on the SAM Region, VHF omnidirectional radio range (VOR) and distance measuring equipment (DME) radio navigation aid coverage was developed, as well as a document for the strategic implementation of Amendment 1 to the ICAO Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444).

#### **Regional Safety Oversight System**

#### Project goal

The objective of this project, funded by the Governments of Argentina, Bolivia, Brazil, Chile, Cuba, Paraguay, Peru, Spain, Uruguay, Venezuela, as well as by Airbus, the Central American Corporation for Air Navigation Services (COCESNA) Agency on Aeronautical Safety for Central America (ACSA), Chilean National Airline (LAN Chile), National Aeronautical Enterprise of Chile (ENAER), Maintenance Service of Peru and Venezuelan Airlines (SEMAN), is to establish and operate a regional safety oversight system in the South American (SAM) Region with the required technical, logistical and administrative support. This



project, which began in 2003 with an expected duration of five years, was extended through 2013.

#### Project achievements

This project continued to manage activities such as the harmonization of regulations and procedures of the Latin American Aviation Regulations (LARs) meeting programmes, multinational certification and surveillance activities, training programmes and support to Member States. Support was also provided to one State for the certification of a commercial air operator, and to another for the implementation of a comprehensive training programme for safety inspector staff and industry. A pilot project for the implementation of safety management systems (SMS) in aircraft maintenance organizations commenced. Advisory circulars to support the implementation of performance-based navigation (PBN) in the SAM Region were prepared in order to implement RNAV 10 (designated and authorized as RNP 10); RNAV 5, RNAV 1 and RNAV 2, Basic-RNP 1, RNP APCH and RNP AR APCH. The programme on data exchange of ramp safety inspections is operational, and approximately 300 ramp inspections were uploaded into the database. Training on these matters was accomplished, five fellowships were awarded. New LARs were incorporated into the Operations Inspector Manual. In addition, a Civil Aviation Training Centres Manual was completed.

#### Training of Aeronautical Personnel in the CAR/SAM Region

#### Project goal

The objective of this project, which is 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 on an annual basis through 2010.

#### Project achievements

Over 178 officials successfully participated in three international seminars on airport fees and charges, air cargo and human resources planning and management in airports and air navigation services, which were delivered in training centres in Latin America. One hundred and seven fellowships were awarded to facilitate participation of both the CAR and SAM Regions in these events. In the field of international cooperation, seven fellowships, each with a one-year duration, were granted to participate in the airport masters programme and 33 fellowships with a duration of two weeks were granted to attend individual sessions on infrastructures management and public services in Spain.



#### ASIA AND THE PACIFIC REGION

Cooperative Agreement for Enhancement of the Meteorological Service for Aviation in the South Pacific (CAEMSA-SP)

#### Project goal

This project is a cooperative agreement between eight participating South Pacific States (Cook Islands, Fiji, Kiribati, Nauru, Samoa, Solomon Islands, Tonga and Vanuatu) and executed by means of a trust fund. The objective is to enhance the safety and efficiency of air transport operations in the region by developing meteorological services in the South Pacific, including sustainable development of meteorological services, quality management systems, cost recovery methods, contingency measures, national legislation, and maintenance of adequate levels of trained personnel. The project, which is implemented in close consultation with the World Meteorological Organization (WMO), deals with deficiencies in the provision of basic meteorological services in the South Pacific subregion, identified by a Special Implementation Project (SIP) in 2005, the International OPMET data banks, the International Air Transport Association (IATA), ICAO audits and the ICAO Asia and Pacific (ASIA/PAC) Regional Office. This project, which began in April 2008 with an expected duration of three months and was extended to January 2009, was completed.

#### **Project achievements**

The aeronautical meteorological expert assigned to this project delivered country reports and a project terminal report.

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

#### Project goal

The objective of this project, which is funded by the Civil Aviation Administration and Airport Authorities in participating States (China (Hong Kong SAR and Macao SAR), Indonesia, Malaysia, Nepal, Philippines, Singapore, Solomon Islands, Thailand, Tonga and Viet Nam), as well as by a grant from donors to the United Nations Central Fund for Influenza Action, is to reduce the risk of spreading Avian influenza and similar communicable diseases by air travellers through cooperative arrangements between the participating States, administrations and airports. This will be achieved initially by the application and implementation of ICAO guidelines, as well as by training personnel from participating civil aviation authorities, airports and airlines in aviation medicine 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 with a duration of three months, was extended through 2010.



#### Project achievements

An ICAO aviation medicine expert conducted on-the-job training using ICAO guidelines. Two aviation medicine/personnel licensing workshops were held and presentations on CAPSCA were made at the 46th Conference of Directors General of Civil Aviation (DGCA) Asia and Pacific Region. The Third CAPSCA Asia-Pacific Steering Committee Meeting and the Third CAPSCA Regional Aviation Medicine Team (RAMT) Meeting were held. Significant conclusions were reached on State-level planning for pandemic preparedness, as well as on airline and airport preparedness plans.

### Cooperative Aviation Security Programme — Asia and Pacific Region (CASP-AP)

#### Project goal

The objectives of this programme, funded by participating States and donors, are to ensure compliance with international conventions, ICAO Standards and Recommended Practices (SARPs), in particular Annex 17 — Security, the security-related aspects of Annex 9 — Facilitation, and guidance material related to aviation security contained in the ICAO Security Manual (Restricted). As of November 2009, 24 States and Special Administrative Regions joined the programme which 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 programme, which commenced in 2004 with an expected duration of 36 months, entered into Phase II which was extended until August 2014.

#### **Project achievements**

National civil aviation security programmes incorporating enhanced aviation security measures and procedures relevant to the region were drafted for Brunei Darussalam, Japan and Kiribati. The national legislation and regulations of 22 States/administrations were reviewed. Draft reports on the aviation security legislation and regulations of 20 States/administrations were developed, 10 of which were discussed with the respective State/administration. Six reports were finalized and sent to the States/administrations concerned. The programme continued to provide aviation security (AVSEC) Inspector Courses and Quality Control Workshops. Furthermore, with the inclusion of security-related matters of Annex 9 in the Universal Security Audit Programme (USAP), CASP-AP joined the International Organization for Migration (IOM) to offer training in fraudulent document detection to both airline and border control personnel. CASP-AP established Regional Aviation Security Teams (RAVSECT) to draw security experts from all States and administrations within the Asia and Pacific Region to provide expert State-specific advice and assistance, as required. A Memorandum of Understanding (MoU) to be signed by all participating States and



administrations on the creation of a standing regional structure for CASP-AP that embodies its institutional framework and the Regional Standing Structures Rules of Operation was circulated together with an Administrative and Operational Policies and Procedures Manual.

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

#### Project goal

The objective of this cooperative project, funded by the People's Republic of China, Democratic People's Republic of Korea, Mongolia and the Republic of Korea, which is executed by means of a Trust Fund project provided by the participating States, and supported by the Association of Asia Pacific Airlines (AAPA), Airbus, The Boeing Company, Bombardier Inc., the European Commission (EC), the United States Federal Aviation Administration (FAA), the International Financial Facility for Aviation Safety (IFFAS), 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 2003 with an expected duration of five years, was extended through 2012.

#### **Project achievements**

COSCAP-NA produced model regulations and procedures for inspectors, including associated training. Training was provided to support the foreign air operator approval and surveillance requirements introduced in Annex 6 — *Operation of Aircraft.* Model regulations and manuals were developed to support the implementation of Annex 13 — *Aircraft Accident and Incident Investigation*. Bulletins and Advisory Circulars were issued and workshops and training were conducted. North Asia Regional Aviation Safety Team (NARAST) met with the other 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 46 action items to implement safety enhancements and the global aviation safety plan. Twenty-seven training courses and seminars were delivered to 450 participants, including air operators and services providers, seven of these in cooperation with COSCAP-SEA and COSCAP-SA. The programme facilitated cooperative support from Member States which had successfully completed their Universal Safety Oversight Audit Programme (USOAP) audit to assist other



Member States in preparing for USOAP audits, as well as the exchange of technical support between Asian COSCAPs.

### Cooperative Development of Operational Safety and Continuing Airworthiness Project — South Asia (COSCAP-SA)

#### Project goal

This project is a cooperative agreement, funded by the Governments of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, which is executed by means of a Trust Fund project provided by the participating States, supported by Airbus, The Boeing Company, the European Commission (EC), the International Financial Facility for Aviation Safety (IFFAS), Transport Canada and the United States Federal Aviation Administration (FAA). The objective 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 with an expected duration of five years, was extended to 2012.

#### **Project achievements**

Following the expansion of the Universal Safety Oversight Audit Programme (USOAP), COSCAP-SA progressively expanded its programme to cover all safety-related areas subject to USOAP audits. Training courses dealing with safety-related disciplines were conducted. A Memorandum of Understanding was signed by the participating States laying the foundation for institutionalization of the programme and, an Institutional Framework and Procedures Manual was adopted specifying the policies, procedures, rules and practices connected with its functioning and operations. Fifteen training courses and seminars were conducted in which 265 persons participated. Safety-related documents and manuals were developed, reviewed, updated and/or reissued. A task force was formed for the standardization of maintenance regulations. Regional experts undertook two missions to each Member State to carry out, as needed, safety oversight tasks, conduct classroom and on-the-job training or assist in the review of safety oversight-related requirements. The official COSCAP-SA website was updated. Accident prevention is being promoted by the South Asia Regional Aviation Safety Team (SARAST). A meeting of Steering Committee members was held to discuss COSCAP-SA implementation strategies and the specific needs of States. A meeting of the heads of aviation training centres was held within the framework of the programme to promote the ICAO TRAINAIR



methodology and exchange knowledge about training and teaching in the aviation sector.

### Cooperative Development of Operational Safety and Continuing Airworthiness — South East Asia (COSCAP-SEA)

#### Project goal

This project is a cooperative agreement between 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 is executed by means of a Trust Fund provided by the participating States and supported by Airbus, The Boeing Company, the European Commission (EC), the United States Federal Aviation Administration (FAA), and the International Financial Facility for Aviation Safety (IFFAS). The objectives 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 with an initial duration of five years, was extended through 2011.

#### Project achievements

Bulletins and Advisory Circulars were issued and workshops and training were provided. The South East Asia Regional Aviation Safety Team (SEARAST) met with the safety teams of the COSCAP North Asia and COSCAP South Asia as a combined Asian regional aviation safety team and identified 46 action items to implement safety enhancements and the global aviation safety plan. During 2009, a total of 778 participants took part in 22 courses, seminars and workshops. The programme facilitated cooperative support from Member States which had successfully completed their Universal Safety Oversight Audit Programme (USOAP) audit to assist other Member States in preparing for USOAP audits, as well as the exchange of technical support between Asian COSCAPs.



#### EUROPE AND THE MIDDLE EAST REGION

# 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, 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 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 commenced in 2006 with an expected duration of five years.

#### Project achievements

The Steering Committee decided that the project objectives should be reviewed in order to exclude aviation security and reintroduce flight operations. The project's priority continued to be the development of draft harmonized regulations on aviation safety based on the European model, where appropriate. The project participated in the Global Aviation Safety Roadmap activities, organized seminars and workshops, and conducted several missions to participating States 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 (ETOPS) was offered to COSCAP-GS Members. These achievements were made possible through inkind support from Airbus, The Boeing Company, EASA, the United States Federal Aviation Administration (FAA), and other partners.

### 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), executed within the framework of the fund established by the CIS, Airbus, The Boeing Company, General Electric, the European Commission (EC), the Ilyushin Aviation Complex and the Interstate Aviation Committee (IAC) 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, is being extended on an annual basis.

#### Project achievements

Two international seminars on Flight Safety Awareness and Airline Operational Control were held jointly with Airbus and the United States Federal Aviation Administration (FAA), respectively. A Summit on the Global Aviation Safety Roadmap was held jointly with Airbus, The Boeing Company, FAA, International Federation of Airline Pilots' Associations (IFALPA), and the Flight Safety Foundation (FSF). A regional working group was established to implement the recommendations of the Summit, including the Regional Roadmap Introduction Plan. In addition, this Regional Working Group was charged with the implementation of the Global Aviation Safety Roadmap, to develop a Regional Manual and regulations concerning safety management systems and conduct training of aeronautical personnel. IFFAS provided financial support for inspectors from Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan to attend a flight safety oversight and an aircraft accident investigation inspector course. About 500 aviation specialists from aviation administrations and airlines in the Member States of this agreement participated in the training.







### APPENDIX 3. REVIEW OF ACTION TAKEN UP TO 31 DECEMBER 2009 ON RESOLUTIONS OF THE 36TH SESSION OF THE ASSEMBLY

Resolution	Subject and action taken
A36-1	Comprehensive Regional Implementation Plan for Aviation Safety in Africa
	The Secretary General established the Africa-Indian Ocean (AFI) Comprehensive Implementation Programme (ACIP) and appointed a Steering Committee in January 2008 to give effect to the Resolution. ACIP has been working with States and Regional Organizations in the AFI Region and the Regional Offices to assist States in establishing effective and sustainable safety oversight systems and enhancing aviation safety through the provision of seminars, workshops and training courses in various safety-related subjects.
A36-2	Unified strategy to resolve safety-related deficiencies
	Amendment 32 to Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes (State letter AN 11/1.3.21-08/23) and Amendment 13 to Part III — International Operations — Helicopters (State letter AN 11/32.3.5-08/24) were adopted in 2008. Through these amendments, the oversight and requirements of foreign operators were strengthened.
	A final edited version of the <i>Manual of Procedures for Operations Inspection, Certification and Continued Surveillance</i> (Doc 8335), <i>related</i> to the certification and continuing oversight of commercial air transport operators and the surveillance of foreign operators, was placed on the ICAO-NET.
	A prototype of an electronic system for sharing critical safety information was developed.
	Six proposals for projects that will provide assistance to the Cooperative Development of Operational Safety and Continuing Airworthiness Project — Banjul Accord Group (COSCAP-BAG) were developed.
	Support continued to the Africa-Indian Ocean (AFI) Comprehensive Implementation Programme (ACIP) and the Regional Offices in addressing the special needs of States in this region. Global Aviation Safety Roadmap workshops were conducted.
	Assistance programmes were coordinated with the United States Federal Aviation Administration (FAA), the United States Department of Transportation (DOT), the European Aviation Safety Agency (EASA), the European Commission (EC) and the World Bank.



There was coordination and cooperation between ICAO and the United States DOT on the development and future implementation of assistance projects, including financial contributions to the projects involving two States that had been referred to the Audit Results Review Board (ARRB). In addition, the United States DOT facilitated funding for Government Safety Inspector (GSI) training courses conducted by the Cooperative Development of Operational Safety and Continuing Airworthiness Project — Banjul Accord Group (COSCAP-BAG).

There was an agreement, in principle, between ICAO, the International Air Transport Association (IATA), the European Union (EU) and the United States FAA to enter into a Memorandum of Understanding for the exchange of safety data and information. Preparation of a bilateral Memorandum of Cooperation between ICAO and the EU to provide a framework for enhanced cooperation, including the exchange of safety audit information, was completed.

Support and guidance were provided in the establishment of regional safety oversight organizations (RSOOs) for the Caspian Sea and Black Sea regions.

Continued support was provided to the Pacific Aviation Safety Office (PASO) for the development of a cost-sharing mechanism to secure long-term sustainability of the Office.

Assistance was provided to the BAG States in establishing the Banjul Accord Group Aviation Safety Oversight Organization (BAGASOO). Ongoing assistance was provided to RSOOs in various areas, including training.

ICAO began regular updating and sharing of information with banks and donor States on the lack of effective implementation of the safety oversight critical elements. Discussions took place with banks and other donors on areas where deficiencies exist, including on activities related to the ICAO Global Aviation Safety Plan (GASP) and on States requiring assistance. The ICAO Database on Assistance Projects (IDAP) was developed as a shared database on deficiencies and assistance projects.

#### A36-3 Implementation Support and Development (ISD) Programme — Safety

A gap analysis was successfully carried out in the Banjul Accord Group (BAG) States, in collaboration with the Africa-Indian Ocean (AFI) Comprehensive Implementation Programme (ACIP), the ICAO Western and Central African (WACAF) Office in Dakar and the Cooperative Development of Operational Safety and Continuing Airworthiness Project — Banjul Accord Group (COSCAP-BAG).

Enhancements to the Flight Safety Information Exchange (FSIX) included the addition of: language proficiency compliance; State recommendations on accidents; wake vortex; turbulence; airworthiness links/lists; links to regulations and samples of model regulations; and links to registration sites. Safety oversight audit reports for 96 per cent of Member States were published.

Internal coordination continued with the Technical Co-operation Bureau (TCB) and other bureaux and offices of ICAO through the Audit Results Review Board (ARRB). Coordination was also conducted through external partnerships and alliances for the development and planning of assistance projects.



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Resolution	Subject and action taken
A36-4	Application of a continuous monitoring approach for the ICAO Universal Safety Oversight Audit Programme (USOAP) beyond 2010
	The future of USOAP beyond 2010 was considered by the Council, including the development of a methodology and the provision of tools required to implement a continuous monitoring approach (CMA); the development of a detailed transition plan for the introduction of a CMA; and the conducting of targeted ICAO Coordinated Validation Missions (ICVMs) during the transition phase.
A36-5	International Financial Facility for Aviation Safety (IFFAS)
	Through State letter M 11/2.1-09/39 dated 8 May 2009, which relates to the appointment of new members of the Governing Body, the Secretary General reiterated his encouragement to States with regard to contributing to IFFAS.
	The Governing Body of IFFAS is composed of 11 members who are nominated by participating States and appointed by the ICAO Council for a term of three years. The current Governing Body has members from Argentina, Chile, China, Egypt, France, India, Italy, Nigeria, Pakistan, Republic of Korea and the Russian Federation.
	A number of promotional activities were undertaken in an effort to raise funds and to promote IFFAS. Through State letter M 11/3-09/44 all Member States were invited to consider participation in IFFAS by making voluntary contributions. Also, information papers on IFFAS were presented during regional civil aviation meetings.
	A report on the activities of IFFAS was submitted to the Council during its 190th Session.
A36-6	State Recognition of the Air Operator Certificate of Foreign Operators and Surveillance of their Operations
	Annex 6, Part I and Annex 6, Part III, Amendment 32 and Amendment 13, respectively, were amended in order to strengthen oversight and requirements of foreign operators, and harmonize the content of the air operator certificate (AOC) and, as of 1 January 2010, the layout of the AOC.
	The Manual of Procedures for Operations Inspection, Certification and Continued Surveillance (Doc 8335), which contains guidelines for the surveillance of foreign operators and the authorization of foreign operators' services, was updated.
	The development of an international register of AOCs progressed with the support of the Civil Aviation University of China and the International Air Transport Association (IATA).
A36-7	ICAO Global Planning for Safety and Efficiency
	Regional workshops were held on the implementation of the Global Aviation Safety Plan (GASP) and the Global Aviation Safety Roadmap. Each workshop focused on the use of the roadmap process and the implementation of the Global Aviation Safety Initiatives.
	A proposal to establish a regional mechanism, known as a Regional Aviation Safety Group (RASG), to harmonize subregional efforts in the field of flight safety, is under consideration.



4	ANNUAL REPORT OF THE COUNCIL — 2009
Resolution	Subject and action taken
	Performance framework forms linked directly to the GASP are being used throughout the Africa- Indian Ocean (AFI) Region, as well as by States participating in the RASG-Pan America (RASG-PA).
	Regional performance workshops in all regions were aimed at the adoption of a performance- based approach to air navigation planning and implementation on the basis of the Global Air Navigation Plan (GANP).
	All regions established action plans to address air navigation operational improvements, using performance framework forms, with clear links to the GANP. All States, in turn, took action to implement national performance frameworks for air navigation systems.
A36-8	No updates.
A36-9	Protecting information from safety data collection and processing systems in order to improve aviation safety
	An advance second edition of the <i>ICAO Safety Management Manual</i> (SMM) (Doc 9859), containing guidance on safety reporting systems, was posted on the ICAO-NET in 2008.
A36-10	No updates.
A36-11	Proficiency in the English language used for radiotelephony communications
	State letter AN 12/44.6-07/68 was disseminated requesting, where applicable, the development of a language proficiency implementation plan by 5 March 2008 and notification to ICAO of the names and contact details of language proficiency focal points.
	From December 2007 to March 2008, workshops were held in each of the ICAO regions on the development of implementation plans for language proficiency requirements (LPRs). Implementation plans and information about compliance with LPRs can be found on the Flight Safety Information Exchange (FSIX) website at http://www.icao.int/fsix/lp.cfm.
	Preliminary language testing criteria were posted on the ICAO-NET in July 2008. The circular on Language Testing Criteria for Global Harmonization (Cir 318) was published in 2009.
	In December 2009, States were invited to provide input on rated speech samples (State letter AN 12/44.6-09/96) for consideration in the preparation of a new edition of the training aid <i>ICAO Language Proficiency Requirements</i> — <i>Rated Speech Samples</i> , which is under development in collaboration with the International Civil Aviation English Association (ICAEA). The new edition of rated speech samples will feature a larger number of speech samples, a wider geographical representation, a more rigorous approach to sample selection, and the use of statistical analysis to ensure the homogeneity of ratings.
A36-12	Halon Replacement
	Significant progress was made by manufacturers in the development of halon replacement agents; however, due to the rate of development of viable agents, amendments may be required to A36-12.



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Resolution	Subject and action taken
A36-13	Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation
	Electronic bulletin AN 1/12-EB/07/37, dated 14 December 2007, advised States of the amendments to the consolidated statement.
A36-14	Use of cross-polar routes
	States and international organizations continue to develop a new international airways structure using cross-polar routes.
A36-15	Consolidated statement of continuing ICAO policies in the air transport field
	This resolution was brought to the attention of Member States in EB 2008/15 dated 30 May 2008.
	Appendix A — Economic regulation of international air transport
	The Secretariat developed and introduced to States a new ICAO facility, the ICAO Air Services Negotiation Conference (ICAN), which provides a central meeting place for States to conduct air services negotiations and consultations. By enabling each participating State to hold meetings with several bilateral partners at the same location, the conference facilitates and greatly improves the efficiency of the negotiation process. It also provides a forum, through its seminar session, for participants to learn about trends and related ICAO guidance, exchange experiences and discuss topical issues in liberalization. The first ICAN was held in Dubai in 2008 and the second in Istanbul in 2009.
	The Secretariat carried out a study in 2009 on global quantitative indicators for evaluating the degree of liberalization. The study produced three types of indicators to track the development of liberalization in terms of country-pair routes and scheduled passenger frequencies as well as opportunities created by liberalization and their actual utilization. The Secretariat promoted liberalization at both the regional and global levels and cooperated with regional groups in symposia on air transport liberalization.
	The Secretariat continued to monitor developments in Trade in Services. The second review by the World Trade Organization (WTO) of the Annex on Air Transport Services in the General Agreement on Trade in Services (GATS), which started in 2006, continued but made little progress. The Secretariat has maintained close working relationship with the WTO Secretariat and provided support.
	The Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587) was updated and published in 2008. The Secretariat also maintains and updates databases which provide, on the ICAO website, relevant information and ICAO guidance material in the field of air transport regulation and liberalization.
	Appendix B — Statistics
	The Integrated Statistical Database (ISDB) system continued to be developed and data processing functions were further automated. With the cooperation of States, ICAO improved the reporting rate



of the latest available civil aviation data; approximately 93 per cent of total world scheduled traffic is now reported.

Officials of national administrations of Member States accessing aviation statistics on the ICAO secure website free-of-charge are now offered a web-based interface and standardized reports. Furthermore, ICAO provides air carrier data to the United Nations for their annual and quarterly publications, and continues to exercise leadership in the collection and distribution of aviation statistics in order to maintain a consistent database and to reduce the burden of reporting for States.

Regional workshops were held in cooperation with the African Airlines Association (AFRAA) and on-the-job training sessions in statistics were provided to participants from Bahrain, Brazil, Dominican Republic, India, Mexico, Nigeria, Romania and the Southern African Development Community (SADC).

The Tenth Session of the Statistics Division (STA/10) was held in Montréal from 23 to 27 November 2009. The Division adopted twenty-two Recommendations regarding adjustment to the Statistics Programme in order to maintain the Programme's relevance to the needs of ICAO, of States and of other users.

#### Appendix C — Forecasting and economic planning

The Secretariat implemented a new air traffic forecasting process in order to ensure better alignment with ICAO Strategic Objectives and enhance the value of the forecasts to their users. The new long-term air traffic forecasts, covering passenger, freight and aircraft movements for the period up to the year 2030, have been published in a new format. These forecasts were prepared using econometric modelling based on a bottom-up approach, starting at the route group level and building up to the regional and global levels. Medium-term, three-year forecasts are prepared for world scheduled airline passenger traffic only, in total, and by region of registration. The forecasts developed during the current triennium are for the years 2008-2010, 2009-2011 and 2010-2012.

The Secretariat continued to provide assistance to the regions in the development of forecasts and other planning parameters required or requested by the respective Planning and Implementation Regional Groups (PIRGs). Six Traffic Forecasting Group (TFG) meetings have been held in the Asia/Pacific, Middle East, Caribbean/South American and African Regions. The work of these TFGs has been published in electronic form in Asia/Pacific Area Traffic Forecasts 2008-2025 (Doc 9915), Caribbean/South American Regional Traffic Forecasts 2007-2027 (Doc 9940), and African-Indian Ocean Regional Traffic Forecasts 2008-2028 (Doc 9939).Traffic forecasts for the Asia/Pacific and Caribbean/South America Regions will be updated and published later this year following the meetings of the two respective TFGs. A regional workshop on forecasting and economic planning was held in Nairobi for States in the Eastern/Southern African Region and a workshop on data collection, forecasting and analyses was held in Mexico for the benefit of States in the Caribbean/South American Region.

Forecasting and economic analysis support continued to be provided to the Committee on Aviation Environmental Protection (CAEP), in particular to its Forecasting and Economic Analysis Support Group (FESG). During the triennium, this support included leading the development of global traffic and fleet forecasts up to the years 2026 and 2036, contribution to the preparation of a scoping



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#### Resolution Subject and action taken

document on alternative forecasting options for CAEP, and reviewing of lessons learned from the analyses of existing environmental trading systems.

Extensive support was provided to the ICAO Group on International Aviation and Climate Change (GIACC) in terms of aviation fuel consumption and traffic data and analyses. These data and analyses provided the basis for the Group's deliberations in order to establish and agree on global short-, medium- and long-term aspirational goals on aviation fuel efficiency.

In support of the transition to the new communications, navigation and surveillance/air traffic management (CNS/ATM) systems, two workshops on the development of a business case for the implementation of CNS/ATM systems were held in Lima (10 to 14 November 2008) and Antigua (28 September – 2 October 2009) for the benefit of States in the Caribbean/South American Region.

#### Appendix D — Facilitation

The Council incorporated into the Twelfth Edition of Annex 9 — Facilitation, applicable in November 2009, new or revised Standards and Recommended Practices (SARPs) on the facilities and services to be made available for traffic at international airports. These provisions address the role of privatized airports in meeting the requirements of border inspection agencies, measures to prevent the spread of disease by air travel and matters relating to modern inspection systems. The Council also adopted new SARPs that seek international uniformity on mitigating entry/exit delays and denials in the transport of radioactive material by air, particularly material used in medical applications. SARPs relating to advance passenger information (API) systems were enhanced in order to align existing and emerging passenger data exchange regimes with existing global best practices, and to help alleviate the difficulties that airlines are currently facing with non-uniform API regimes.

Seven supplements to the Machine Readable Travel Documents (Doc 9303) containing updated specifications were issued since the 36th Session of the Assembly. In addition, Volumes I and II of Part 3 of Doc 9303, Machine Readable Official Travel Documents (Third Edition) were published in October 2008.

Regarding the implementation of Standard 3.10 of Annex 9, which mandates States to issue machine readable passports (MRPs) in accordance with the specifications of Doc 9303, Part 1, no later than 1 April 2010, an estimated 19 States are not presently issuing MRPs, although 11 out of those 19 States are expected to do so before the end of 2010.

ICAO launched MRTD Vision 2020, a consultative process required to maintain the relevance of the MRTD Programme throughout the next decade, during the Fifth MRTD Symposium and Exhibition in September 2009. Assistance on MRTD-related matters is available to States and other international organizations on request, and over 60 States have benefited from such assistance since the 36th Session of the Assembly.

The Technical Advisory Group on Machine Readable Travel Documents (TAG-MRTD) concluded that, to enhance the security and integrity of passport issuance, the Group's work should be expanded to include all identity management issues, and not be limited to the development of MRTD specifications. A revision to Assembly Resolution A36-15, Appendix D, Section II,



International cooperation in protecting the security and integrity of passports, will be presented to the 37th Session of the Assembly in this regard.

The ICAO Public Key Directory (PKD) presently comprises 16 participants. The Directory has gained worldwide institutional support, reflected in its growing participation levels and its role as the mechanism to improve security in electronic passports (ePassports). It has become the most popular choice for fast and reliable electronic exchange of certificates and revocation lists on a daily basis, which are required to verify and authenticate ePassports.

#### Appendix E – Taxation

The Secretariat continued to promote ICAO's Policies on Taxation in the Field of International Air Transport (Doc 8632), and requested States to update their positions on the policies to be included in the Supplement to Doc 8632. A new edition of the Supplement was published and made available on the ICAO website.

#### Appendix F – Airports and air navigation services

The Conference on the Economics of Airports and Air Navigation Services (CEANS) was held in September 2008. The report of the Conference was published as Doc 9908.

Several aspects of ICAO's Policies on Charges for Airports and Air Navigation Services (Doc 9082) were addressed at CEANS. The eighth edition of Doc 9082 was issued in January 2009.

The Secretariat, with the assistance of the Airport Economics Panel (AEP) and the Air Navigation Services Economics Panel (ANSEP), started the revision and updating of the Airport Economics Manual (Doc 9562) and the Manual on Air Navigation Services Economics (Doc 9161), based on the CEANS recommendations.

A Report on the Ownership, Organizational and Regulatory Practices of Airports and Air Navigation Services Providers was published in 2008. Another report on the Financial Situation of Airports and Air Navigation Services Providers, based on 2007 data, was published in 2009. Both reports are available on the ICAO website.

#### Appendix G – Air carrier economics

Studies on regional differences in international airline operating economics for the years 2005, 2006 and 2007 were carried out and a study for the year 2008 commenced; the results are published in circulars on a biennial basis. Based on the results of these studies, values of the worldwide and area weightings were provided, on an annual basis, to the International Air Transport Association's (IATA) Prorate Agency to establish prorate factors for passenger revenues from interline journeys.

#### Appendix H – Airmail

The Universal Postal Union (UPU) is provided annually with airline traffic and financial data and analysis to be used for the calculation of the basic airmail conveyance rate according to Article 53 of the Universal Postal Convention.



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Resolution	Subject and action taken
A36-16	Assembly resolutions no longer in force
	Doc 9902, Assembly Resolutions in Force (as of 28 September 2007), containing all resolutions in effect at the close of the 36th Session of the Assembly, was published.
A36-17	Consolidated Statement of ICAO Policies on Technical Cooperation
	ICAO continued to promote the achievement of the strategic objectives of the Organization through its Technical Co-operation Bureau (TCB) by supporting developing countries in their strive for sustainable development and by providing support in the effective implementation of ICAO Standards and Recommended Practices (SARPs) and Air Navigation Plans (ANPs). In this context, TCB assisted in the remedying of deficiencies in the field of civil aviation and in the development of civil aviation infrastructure and human resources in accordance with States' national policies and priorities. Close cooperation with the Audit Results Review Board (ARRB) facilitated enhanced coordination with other ICAO assistance programmes, in particular with the safety and security initiatives, to address audit findings. The restructuring of the ICAO Secretariat, together with the implementation of the new financial system and the adoption of a new policy on cost-recovery for support services provided by the Regular Programme, are expected to lead to greater efficiencies and a gradual adjustment of administrative support costs charged to States. The strengthening of the Technical Cooperation Programme at the Regional Office levels progressed with the recruitment of technical cooperation officers and the transfer of selected field operations functions. Complementing an increased number of Management Service Agreements (MSAs) and Civil Aviation Purchasing Services (CAPS) agreements signed with States, TCB continued to explore new sources of financing or in-kind contributions for its technical cooperation projects on a country- specific and subregional basis. These included strengthened collaboration with the private sector, industry, multilateral and bilateral entities and an expanded implementation scope for safety and security programmes, such as the Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAP) and the Cooperative Aviation Security Programme (CASP). ICAO increased sou
A36-18	Financial contributions to the Aviation Security Plan of Action

The required contributions were requested from States in State letter AS 8/1.5-07/75 dated 31 December 2007 and a reminder letter (State letter AS 8/1.5.1-08/65 dated 6 October 2008) was sent with regard to the shortfall in funding for the implementation of the ICAO Aviation Security Plan of Action. Further notifications were provided by President Memorandum PRES RK/1639 dated 29 January 2009. The Action Plan has been integrated into the proposed Regular Programme budget for the 2011-2013 triennium.

#### A36-19 Threat to civil aviation posed by man-portable air defence systems (MANPADS)

This Resolution was brought to the attention of States in State letter AS 8/14-08/26 dated 20 March 2008. States were requested to note and implement the Resolution and to provide information to ICAO by 31 July 2008. A report on the implementation of this Resolution was presented to the Council during its 186th Session, including the information provided by the 28 States that had replied, confirming that steps are being taken to meet the terms of the Resolution. An analysis of



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	the replies received indicates States' close cooperation with other international and regional organizations, such as the Asia-Pacific Economic Cooperation (APEC), International Criminal Police Organization (INTERPOL), the North Atlantic Treaty Organization (NATO), the Organization of American States (OAS), and the Organization for Security and Co-operation in Europe (OSCE).
	The Aviation Security Panel's Working Group on Threat and Risk is developing guidance material to address the threat posed by MANPADS. This subject was considered during recent meetings of this working group.
A36-20	Consolidated statement of continuing ICAO policies related to the safeguarding of international civil aviation against acts of unlawful interference
	This Resolution was brought to the attention of Member States in Electronic Bulletin EB 2008/10 dated 18 April 2008. States were requested to note and implement the Resolution and to provide information to ICAO by 31 July 2008.
	Appendix A — General Policy
	No updates.
	Appendix B — International legal instruments, enactment of national legislation and conclusion of appropriate agreements for the suppression of acts of unlawful interference with civil aviation
	No updates.
	Appendix C — Implementation of technical security measures
	The Implementation Support and Development (ISD) Security Programme provides support and oversight for 18 Aviation Security Training Centres (ASTCs) worldwide. There were three ASTC Directors meetings held in the last triennium on strengthening and ensuring effective communication between the Centres and ICAO. A formal process was developed to regularly assess the quality of the ASTC network, as well as the suitability of training centres that apply to join the network. The protocol for evaluating the quality of the existing network on a triennial basis was presented to the seventh ASTC Directors meeting in Trinidad and Tobago in December 2009, and is currently in effect.
	The Secretariat Study Group on the Carriage of Liquids, Gels and Aerosols will present to the twenty-first meeting of the Aviation Security Panel in March 2010 conclusions and recommendations developed using input from the Workshop on the Screening and Carriage of Liquids, Aerosols and Gels (LAGs), held in Brussels in November 2009.
	Appendix D — Action of States concerned with an act of unlawful interference
	The Secretariat has established a database on a secure website in order to disseminate information on acts of unlawful interference in a more efficient and effective manner. The electronic database represents a significant improvement over the annual print summaries disseminated in the past. The database is continuously revised upon receipt of information. It is readily accessible to Member States, and facilitates research by providing detailed yearly results dating from 1981.



Trends are updated automatically and are displayed in the form of graphs and a detailed table. With the commissioning of this new web-based tool, Member States are able to review the data on acts of unlawful interference at any time and develop their own short- or long-term analyses. Access to the database is strictly controlled and requires user registration.

The ICAO-wide Aviation Security Point of Contact (PoC) Network, established initially to exclusively relay information on imminent security threats, is also to be used for sharing information related to a broader range of security topics that may be useful for States. Accordingly, information relating to the following subjects has been placed on the Network website: aviation security stakeholders, aviation security quality control and future work by States in improving screening capabilities and practices.

#### Appendix E — The ICAO Universal Security Audit Programme

With regard to Resolving Clause 1 on the continuation of the Universal Security Audit Programme (USAP) following the initial cycle of audits at the end of 2007, recertification of USAP auditors was completed in early 2008. A second cycle of USAP audits, focusing on the implementation of the critical elements of an effective aviation security oversight system, and incorporating security-related provisions of Annex 9 — Facilitation, was launched in January 2008.

With regard to Resolving Clause 4, the programme of follow-up missions to validate the implementation of State corrective action plans and to provide support to States in remedying deficiencies was completed in December 2009, with a total of 172 Member States receiving a follow-up visit.

With regard to Resolving Clause 7 on the introduction of a limited level of transparency with respect to ICAO aviation security audit results, the Council, on 27 June 2008, approved a proposal to introduce such transparency, whereby a graphical representation depicting the level of implementation of the critical elements of an aviation security oversight system for each audited State is posted on the USAP secure website. A consequential amendment to Article 20 of the model Memorandum of Understanding (MoU) between ICAO and audited States was subsequently approved by the Council. States that had already been audited, or that had already received the previous MoU, were invited to consent to the amended MoU through an exchange of letters, and all have done so.

With regard to Resolving Clause 8, a progress report on the overall implementation of the USAP, covering both the first and the second audit cycles, will be presented to the 37th Session of the Assembly.

### Appendix F — Assistance to States in the implementation of technical measures for the protection of international civil aviation

The ISD Security Programme continues to provide assistance to Member States in the development and maintenance of a viable and sustainable aviation security system. This support helps to rectify deficiencies identified under the Universal Security Audit Programme. Primarily, support is provided on a short-term basis, including guidance in the development of national programmes and aviation security training. In this triennium, 44 States received support to address



deficiencies and improve their security infrastructures. Several States were referred by the United Nations Counter Terrorism Executive Directorate for direct assistance.

In order to further develop regionalized aviation security assistance to States and continue to foster regional cooperation and partnerships, Aviation Security Regional Officers (ASROs) have been recruited for the Asia and Pacific Office (APAC), Eastern and Southern African Office (ESAF), North American, Central American and Caribbean Office (NACC), South American Office (SAM) and Western and Central African Office (WACAF) Regions. ASROs serve as the primary focal point for States requiring assistance with respect to deficiencies identified under the Universal Security Audit Programme, in the implementation of Annexes 9 and 17, and in all training activities within their respective regions.

Efforts are continuing to further develop partnerships with States and entities able to provide assistance. Phase II of the ICAO/Canada Security Awareness Training Programme under the Department of Foreign Affairs and International Trade (DFAIT) Canada Counter-Terrorism Capacity Building Programme, was successfully concluded. This partnership programme was designed to assist NACC and SAM States to improve aviation security systems and implement Annex 17 SARPs. In total, 656 specialists received aviation security training, represented by 38 States and three international/regional organizations.

The Aviation Security Professional Management Course was developed in partnership with the John Molson School of Business at Concordia University in Montréal. The goal of the programme is to provide aviation security management personnel with new management skills and a greater understanding of the application of the Convention on International Civil Aviation (Doc 7300) and Annex 17 SARPs, and the Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference (Restricted) (Doc 8973). As of December 2009, 227 participants, representing 59 States, successfully graduated from this course.

In an effort to bring together aviation experts from around the world to develop a strategy for aviation security in Africa, a Conference on the Development of the African Aviation Security Roadmap was held in Addis Ababa, in November 2007. This highly successful event provided a forum for government officials and aviation industry executives from around the world to help form and initiate a roadmap to develop efficient infrastructure and capacity building for aviation security in Africa, through partnerships, alliances and professional initiatives. The Conference was attended by 254 participants from 36 States, seven international and regional organizations, three universities and six aviation industry organizations. The Conference concluded with the development of a roadmap for African Aviation, outlining the steps to be conducted regarding aviation security, as well as a mandate to convene a follow-up meeting in one year in order to ascertain progress achieved under the roadmap.

Three Regional aviation security seminars were successfully conducted in 2008 and 2009. These seminars were intended to promote sustainable development in aviation security and to encourage an exchange of views on developments in the region, including inter-regional cooperation among States.

Aviation security training continues to be a major function of the ISD Security Programme. Activities include the development and maintenance of training material, in cooperation with ICAO's Aviation Security and Facilitation Policy Section (SFP). Of the eight Aviation Security Training Packages



(ASTPs) currently available, four were revised in 2009: Basic, Cargo, Instructors and National Inspectors; the others are: Airline, Crisis Management, Exercise, and Management. Additionally, five aviation security assistance workshops continued to be taught within the Aviation Security Training Centre (ASTC) network and in States: the National Civil Aviation Security Programme (NCASP), National Civil Aviation Quality Control Programme (NCAQCP), National Civil Aviation Security Training Programme (NCASTP) and the Airport Security Programme (ASP).

States were, on a regular basis, informed by State letters and, if necessary, by reminder letters, of upcoming training courses in their respective regions and urged to take advantage of these opportunities for their aviation security personnel.

In order to improve the standards and maintain the quality of aviation security instructors, an Aviation Security Instructors Recertification Programme was developed by the ISD Security Programme. The Recertification Programme focused on current instructing practices and techniques for presenting ASTPs, conducting training workshops, and defining the roles and responsibilities of the instructor and ASTCs. The programme was completed in July 2009, resulting in the recertification of 145 aviation security instructors.

Appendix G — Action by the Council with respect to multilateral and bilateral cooperation in different regions of the world

No updates.

Appendix H — International and regional cooperation in the field of aviation security

Collaboration with the G8 Secure and Facilitated International Travel Initiative (SAFTI) and other relevant groups of States such as the Asia-Pacific Economic Cooperation Secure Trade in the APEC Region (STAR) initiative is ongoing, in relation to the development of countermeasures against the threat posed by man-portable air defence systems (MANPADS). Their implementation by all Member States was encouraged as detailed under Assembly Resolution A36-19 — *Threat to civil aviation posed by man-portable air defence systems (MANPADS)*.

A36-21 Preventing the introduction of invasive alien species

This Resolution was brought to the attention of Member States by Electronic Bulletin 2008/7 dated 6 March 2008. ICAO continues to cooperate with appropriate international organizations in this matter, and is a member of the Inter-agency Liaison Group on Invasive Alien Species.

A36-22 **Consolidated** statement of continuing ICAO policies and practices related to environmental protection

Additional tasks resulting from this Resolution were brought to the attention of the Committee on Aviation Environmental Protection (CAEP) Steering Group in November 2007 for inclusion in the work programme towards the Committee's eighth meeting (CAEP/8). This Resolution was brought to the attention of Member States by State letter ENV 1/1-08/44 dated 27 May 2008.



#### Appendix A — General

Initial work by CAEP on the establishment of a set of aviation environmental indicators which States could use to evaluate the performance of aviation operations and the effectiveness of Standards, policies and measures to mitigate the impact of aviation on the environment was presented to CAEP/8.

In order to further disseminate information on ICAO policies and guidance material, articles on ICAO's work on the environment were published in various editions of the ICAO Journal and other publications; a number of workshops were held, including a Workshop on Aviation and Carbon Markets (June 2008); noise technology workshop under CAEP (September 2008); fuel burn reduction technologies workshop under CAEP (March 2009); Workshop on Aviation and Alternative Fuels (February 2009); and a Conference on Aviation and Alternative Fuels (November 2009). ICAO organized side-events during the United Nations Framework Convention on Climate Change (UNFCCC) process, including one organized by ICAO and the International Maritime Organization (IMO) at UNFCCC COP 15 in December 2009. ICAO also participated in 18 international events to promote its work on the environment. Briefings on the latest environment-related developments and on ICAO's environmental policy were prepared for missions by the President of the Council, the Secretary General and for the ICAO Regional Offices. Preparations for the third ICAO Environmental Colloquium, to be held from 11 to 14 May 2010, are under way. The ICAO Environmental Report is in progress and its publication is scheduled for Fall 2010.

In June 2008, ICAO launched the Carbon Emissions Calculator developed by CAEP, which estimates the carbon dioxide ( $CO_2$ ) emissions from air travel (available on the ICAO website). The Calculator was endorsed by the United Nations Environment Management Group (EMG) in 2009 as the official tool for computing United Nations  $CO_2$  inventories from air travel in support of the Climate Neutral United Nations Initiative.

### Appendix B — Development of Standards, Recommended Practices and Procedures and/or guidance material relating to the quality of the environment

Amendment 9 to Annex 16, Volume I and Amendment 6 to Annex 16, Volume II were finalized and published in April 2008. Further amendments were agreed to by CAEP/8, including a new NOx certification Standard and the introduction of a production cut-off, based on the CAEP/6 NOx Standard. CAEP/8 also agreed to target CAEP/9 for agreement on a CO<sub>2</sub> Standard. The Commercial Aircrafts System Fuel Efficiency (CASFE) metric was approved by the Group on International Aviation and Climate Change and the High-level Meeting on International Aviation and Climate Change. Assessment of noise stringency scenarios will be the agenda for CAEP/9.

With regard to the establishment of medium- and long-term technology and operational goals related to noise, NOx and fuel burn under CAEP's Independent Expert (IE) review processes, noise goals review was initiated in September 2008; operational goals review was initiated in December 2008 and fuel burn and NOx goals reviews were initiated in April 2009. Final reports on noise and NOx reviews were presented to CAEP/8, and further work on fuel burn and operational goals will be continued in the CAEP/9 cycle.

To continue to foster operational and air traffic improvements, a new document to replace Circular 303 is being prepared under CAEP, for completion by CAEP/9. The *Continuous Descent* 


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*Operations (CDO) Manual* (Doc 9931) was jointly produced by Panels of the ANC, i.e. the Instrument Flight Procedure Panel (IFPP), the Operations Panel (OPSP) and CAEP.

The Secretariat continues to closely follow the activities of the Intergovernmental Panel on Climate Change (IPCC) Task Group on Data and Scenario Support for Impacts and Climate Analysis to ensure that aviation is represented appropriately in these scenarios and that analyses by the Secretariat are consistent with those scenarios to the extent practicable. The Secretariat is supporting the work of CAEP in the development and analysis of scenarios. These scenarios investigate the effects of aircraft noise, local air quality, and greenhouse gas (GHG) emissions from 2006 through 2050 across a range of possible technological and operational cases.

Appendix C — Policies and programmes based on a "balanced approach" to aircraft noise management

The *Guidance on the Balanced Approach to Aircraft Noise Management* (Doc 9829) produced by CAEP was updated based on encroachment analysis methodologies at airports in some States. These methodologies, which are documented, provide examples of how the encroachment issues might be described, assessed, and quantified in a systematic way.

Appendix D — Phase-out of subsonic jet aircraft which exceed the noise levels in Volume I of Annex 16

No updates.

Appendix E — Local noise-related operating restrictions at airports

CAEP studied the possible effects of noise curfews at airports in one region on airports in other States or regions. An initial study by CAEP focused on the scope and scale of the curfew problem. The next step included estimating the environmental impact of curfews on destination countries based on case study airports for South Africa and India. It was concluded that, while the European curfews may be a contributing factor to the generation of night-time aircraft movements in some case study airports, there are probably a number of other influencing factors such as time zones, airline economics and passenger demand.

Appendix F — Land-use planning and management

No updates.

Appendix G — Supersonic aircraft — The problem of sonic boom

CAEP continues to monitor the development of supersonic aircraft and their implications on the development of future standards. Science Focal Points were appointed to report to CAEP/8 on research on acceptability of sonic booms.

Appendix H — Aviation impact on local air quality

In order to monitor and develop its knowledge of the effects of aviation emissions on human welfare and health, the CAEP Impacts Workshop on Assessing Current Scientific Knowledge,



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Uncertainties and Gaps in Quantifying Climate Change, Noise and Air Quality Impacts of Aviation was organized in October 2007. The results of the workshop were integrated into the CAEP/9 work programme. ICAO cooperated with the World Health Organization (WHO) as the author/reviewer of an aircraft noise and health study; night noise guidelines; and health risk assessment of environmental noise.

CAEP/8 agreed a new NOx certification Standard and an introduction of production cut-off based on the CAEP/6 NOx Standard (see Appendix B).

To pursue the development of guidance material on issues related to the assessment of airportrelated air quality, several chapters of an *Airport Air Quality Guidance Manual* were updated by CAEP/8 and the remaining chapters will be completed during the CAEP/9 cycle.

### Appendix I — Aviation impact on global climate — Scientific understanding

CAEP Impacts Workshop on Assessing Current Scientific Knowledge, Uncertainties and Gaps in Quantifying Climate Change, Noise and Air Quality Impacts of Aviation was organized in October 2007 (see Appendix H).

ICAO requested the IPCC to include further information on the impact of aviation on climate change in the Fifth Assessment Report (AR5). The United Nations Environment Management Group (EMG) meeting in December 2008 invited ICAO and the United Nations Environment Programme (UNEP) to convene a meeting of experts to provide further guidance as a priority on the question of an appropriate metric to account for all GHG effects from aviation. ICAO, working actively with UNEP and IPCC on an approach to advance the work on this subject, has scheduled a meeting in May 2010 aiming to provide a recommendation on the next steps to the EMG.

To promote improved understanding of the potential use, and the related emissions impacts, of alternative aviation fuels, Workshop on Aviation and Alternative Fuels was held in February 2009 and Conference on Aviation and Alternative Fuels was held in November 2009.

### Appendix J — Aviation impact on global climate — Cooperation with UN and other bodies

ICAO participated in the UNFCCC COP 13 (Bali, December 2007), COP 14 (Poznan, December 2008) and COP 15 (Copenhagen, December 2009), as well as their subsidiary bodies, and provided them with statements/submissions on ICAO's developments in international aviation and climate change. In particular, ICAO provided the outcome of the High-level Meeting in International Aviation and Climate Change in October 2009 and Conference on Aviation and Alternative Fuels in November 2009 to COP 15.

ICAO implemented the Climate Neutral United Nations Strategy and supported the United Nations system in estimating aviation-related official travel GHG emissions.

### Appendix K — ICAO Programme of Action on international aviation and climate change

Group on International Aviation and Climate Change (GIACC), consisting of 15 senior government officials representative of all ICAO regions with equitable participation of developing and developed States, was formed by the Council to develop an ICAO Programme of Action on International



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In May 2009, GIACC developed the Programme of Action, which was fully accepted by the Council in June 2009. The High-level Meeting on International Aviation and Climate Change was convened in October 2009 to review the Programme of Action recommended by the GIACC. The Meeting endorsed the Declaration and Recommendations, which were fully accepted by the Council in November 2009.

CAEP/8 agreed to target CAEP/9 for agreement on a CO<sub>2</sub> Standard (see Appendix B).

In order to encourage States and stakeholders in promoting and sharing best practices, the Secretariat requested States, through State letter AN 1/17-09/93, to provide information concerning their voluntary measures: this information was presented in a report at CAEP/8.

Appendix L — Market-based measures, including emissions trading

Guidance on the Use of Emissions Trading for Aviation (Doc 9885) was published in 2008.

The updated Report on Voluntary Emission Trading for Aviation, the Report on Scoping Study of Issues Related to Linking Open Emission Trading Systems Involving International Aviation, and the Report on Offsetting Emissions from the Aviation were presented to CAEP/8.

A36-23 *Performance-based navigation global goals* 

Eleven regional seminars were held; six performance-based navigation (PBN) procedure design training courses were completed; and three operations (OPS) approval courses and eight PBN airspace design workshops were planned.

Regional task forces and regional PBN implementation plans were established and supported for each region. All ICAO regions submitted regional PBN implementation plans and 126 States completed national implementation plans. All planning and implementation regional groups (PIRGs) established PBN task forces and action plans for implementation. A joint ICAO/IATA Global PBN Task Force was established to expedite PBN implementation.

The *Procedures for Air Navigation Services* — *Aircraft Operations* (PANS-OPS, Doc 8168) was amended to include PBN approaches.

The following documents were completed: the *Performance-based Navigation (PBN) Manual* (Doc 9613); the *Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual* (Doc 9905); the *Quality Assurance Manual for Flight Procedure Design* (Doc 9906); and the COSCAP OPS approval handbook.

A36-24 Non-chemical disinsection of the aircraft cabin and flight deck for international flights

On 11 March 2008, the Secretary General wrote to the Director-General of the World Health Organization (WHO) urging WHO to hold a consultation on methods of disinsection of the aircraft cabin and flight deck.



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	During a meeting held by WHO in Florida, from 15 to 16 December 2008, a demonstration of a non-chemical method, the "air curtain", was presented by the United States Department of Agriculture, Centre for Medical and Veterinary Entomology at the Agricultural Research Station, Gainesville and also at Orlando International Airport.
	A subgroup meeting of a WHO working group on chemical disinsectants was held at ICAO Headquarters on 7 July 2009 and WHO subsequently developed draft guidelines for efficacy testing of disinsectants.
A36-25	Support of the ICAO policy on radio frequency spectrum matters
	An initial draft of the ICAO Position for the ITU World Radiocommunication Conference in 2012 (WRC-12) was sent (State letter E 3/5-08/69), urging States to firmly support the ICAO Position both at WRC-12 and in preparatory activities for the Conference.
A36-26	Consolidated statement of continuing ICAO policies in the legal field
	The consolidated statement which contained editorial updates of resolutions in the legal field was published in Doc 9902: "Assembly Resolutions in Force (as of 28 September 2007)" which has been circulated to Member States. The resolution was also sent to States as an Attachment to State letter LE 3/40-08/4 dated 25 January 2008. By periodic State letters, States are urged to ratify amendments to the <i>Convention on International Civil Aviation</i> not yet in force and other international air law instruments.
A36-27	Gender Equality
	A Plan of Action was developed to focus on specific strategies for internal and external communications to promote the sharing of knowledge and enhance networking on gender equality. In this respect, a number of activities was carried out throughout 2008 and 2009, including a workshop with a Panel of Directors "Open Discussion – ICAO the Road Ahead" with the participation of Directors and ICAO staff members (May 2008); a visit to an aviation manufacturing facility (February 2009); attendance at the Women in Aviation International (WAI) Conference in Atlanta (February 2009) for the purpose of awarding WAI scholarships; attendance at educational and other relevant panels; a Job Shadow Contest, held in connection with International Women's Day, in which ten staff members were selected to participate in one-day training sessions in an Office/Section of their choice (March 2009).
	In accordance with the decision of the Advisory Body on Gender Equality and Gender

In accordance with the decision of the Advisory Body on Gender Equality and Gender Mainstreaming, qualified women in aviation shall be selected, on a yearly basis, to receive ICAO Women in Aviation International (WAI) Training Scholarship Awards. The objective of these awards is to identify and encourage qualified women to apply for technical posts at ICAO. Five qualified women were selected to receive the 2010 ICAO WAI Training Scholarship Awards.

As at 31 December 2009, the number of women in the Professional and higher categories reached 31.5%, the highest level in the history of ICAO. In comparison, the percentage of women in Professional and higher categories throughout all the organizations of the United Nations common system reached 40%. The percentage of women in ICAO compares favourably with that of other technical United Nations organizations. In order to enhance the competencies of staff, relevant



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	training programmes were introduced with the intention of capacity development, with due consideration being given to gender mainstreaming.
	In line with the current practices of the organizations of the United Nations common system to meet human resources management challenges and to create a working environment conducive to increasing productivity and family-friendly policies, flexi-time working hours were introduced. Special working arrangements, such as telecommuting, were also considered, on a case-by-case basis.
A36-28	Term limits for the Offices of Secretary General and the President of the Council
	This resolution was published in Doc 9902: " <i>Assembly Resolutions in Force</i> (as of 28 September 2007)", which has been circulated to Member States. States were referred to the Resolution in State letter A 2/4.6-08/49 dated 7 July 2008 concerning nominations for the post of Secretary General.
A36-29	Budgets for 2008, 2009 and 2010
	Section A: No action required.
	Section B: No action required.
	Section C: The Council decided that for fiscal years 2008 and 2009, assessments would be in Canadian dollars. Through State letter A $1/8 - 09/97$ dated 30 December 2009, the Secretary General notified the Member States of the (two) currencies and amounts required for the payment of their assessments with effect from fiscal year 2010.
A36-30	Confirmation of Council action in assessing the contributions to the General Fund and determining advances to the Working Capital Fund of States which have adhered to the Convention
	No action required.
A36-31	Apportionment of the expenses of ICAO among Contracting States (Principles to be applied in the determination of scales of assessment)
	The principles and criteria as stipulated by the Assembly have been applied in determining assessment amounts.
A36-32	Assessments to the General Fund for 2008, 2009 and 2010
	The Secretary General notified Contracting States of their assessments for 2008 in State letter A 1/8-07/71 dated 30 November 2007; for 2009 in State letter A 1/8-08/79 dated 17 December 2008; and for 2010 in State letter A 1/8-09/97 dated 30 December 2009.



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A36-33	Discharge by Contracting States of financial obligations to the Organization and action to be taken in case of their failure to do so
	During 2009, the Secretary General dispatched to all Contracting States three State letter schedules showing the amounts due for the current year and up to 31 December of the previous year.
	No new arrangements were proposed since the last Assembly. The Council continues to promote its policy of inviting Contracting States in arrears to make settlement proposals for the liquidation of long-outstanding arrears of contributions in accordance with ICAO Resolution A36-33.
	As at 31 December 2009, the voting power in the Assembly and the Council of 23 Contracting States was deemed to be suspended due to arrears of contributions equal to or in excess of the total assessments for the three preceding financial years and of those Contracting States not in compliance with agreements entered into in accordance with Assembly Resolution A36-33, Resolving Clause 4 b).
	The additional measures stipulated in A36-33, Resolving Clause 9, were also applied during the period to those Contracting States which were deemed to have their voting power suspended under Article 62 of the Convention. Only those States which have no outstanding annual assessed contributions except for the current year's assessment were eligible for election to the Council, Committees, and bodies.
A36-34	Working Capital Fund
	The Council approved the recommendation that an increase in the level of the Working Capital Fund was not considered necessary at that time.
A36-35	Amendment of the Financial Regulations
	The thirteenth edition of <i>The ICAO Financial Regulations</i> (Doc 7515), incorporating all amendments approved by the 36th Session of the Assembly, was published in 2008.
A36-36	Approval of the accounts of the Organization for the financial years 2004, 2005 and 2006 and examination of the Audit Reports thereon
	No action required.
A36-37	Approval of those accounts with respect to the United Nations Development Programme activities administered by ICAO as Executing Agency for the financial years 2004, 2005 and 2006 and examination of the Audit Reports on the financial statements of the Organization which also cover the United Nations Development Programme accounts
	The financial statements and the Audit Reports were transmitted to the Administrator of the United Nations Development Programme for submission to the Executive Board.



# **APPENDIX 3**

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A36-38 Appointment of the External Auditor

The Council, at its second meeting of the 189th Session, approved the appointment of Mr. Alain Pichon as interim successor to the External Auditor of ICAO, the late Mr. Philippe Séguin, who passed away on 7 January 2010. Subsequently, Mr. Didier Migaud took office as First President of the Cour des Comptes on 23 February 2010 succeeding Mr. Philippe Séguin. As such, Mr. Migaud will be reporting on the audit of the Financial Statements of ICAO for the year ending 31 December 2009.

A36-39 Study on the apportionment of costs between the Administrative and Operational Service Cost (AOSC) Fund and the Regular Programme Budget

Strenuous efforts were made throughout the current triennium to define and develop a Cost Recovery Policy. An extensive exercise was undertaken using a firm of financial consultants (KPMG) to explore the options for such a policy and its report was presented and discussed with the Finance Committee, the Technical Cooperation Committee and the Council. The broad contours of a cost recovery policy were approved. The Council agreed to re-visit this issue in the 192nd Session.



