



Doc 9898

International Civil Aviation Organization

# ANNUAL REPORT OF THE COUNCIL



2007

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

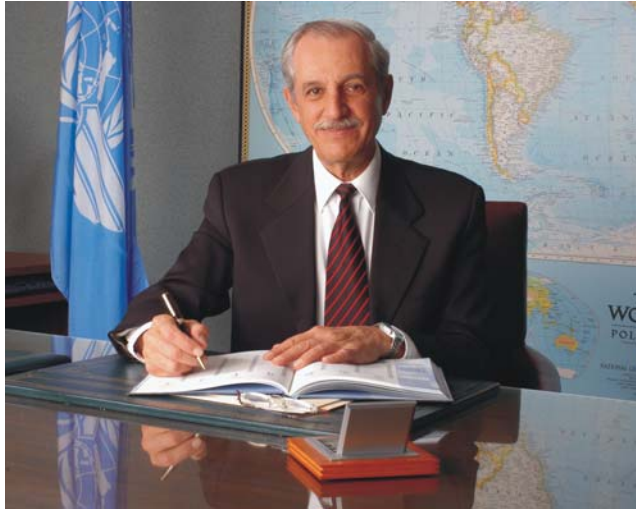
"WHEREAS it is desirable to avoid friction and to promote that cooperation between nations and peoples upon which the peace of the world depends;

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

"Have accordingly concluded this Convention to that end."

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

# MESSAGE FROM THE PRESIDENT OF THE COUNCIL



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## TO THE ASSEMBLY OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION

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*I have the honour to transmit, at the direction of the Council, its Report for the year 2007 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 Contracting States now for their information. It will also be sent to the Economic and Social Council of the United Nations in pursuance of Article VI, paragraph 2 (a) of the Agreement between the United Nations and ICAO.*

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### **Reaffirming ICAO's Global Leadership**

An Assembly year is always a milestone in the evolution of ICAO as Contracting States develop the work programme for the next three years in the technical, economic, environmental, legal and cooperative fields, approve a related budget and elect the Council, the governing body of the Organization between Assemblies.

The overarching achievement of the 36th Session of the Assembly in September of 2007 was an overwhelming endorsement of the global leadership of ICAO in all activities listed in the six Strategic Objectives. A great many resolutions that will further enhance the safety, security, efficiency and sustainability of international civil aviation were adopted and specific programmes and activities were initiated or reinforced to contribute to the health and growth of air transport worldwide.

Understandably, discussions on minimizing the impact on the environment generated considerable debate. All participants agreed on the need for more concerted and effective action to reduce the carbon footprint of international aviation, and that a wide array of options would have to be used, essentially technological, operational and economic.

The Assembly requested the Council to form a new Group on International Aviation and Climate Change for the purpose of developing and recommending to the Council an aggressive Programme of action on International Aviation and Climate Change, based on consensus, and reflecting the shared vision and strong will of all Contracting States.

This strong show of support for ICAO's leadership role and extensive work programme will prove essential as the Organization and the world aviation community tackle the enormous challenges that lie ahead, which can be summed up in one simple word — growth.

One graphic manifestation of this anticipated growth is the coming into operation of about 17 000 new aircraft over the next decade, creating an acknowledged need for training of some 217 000 pilots and 430 000 mechanics, not to mention air traffic controllers and managers for the organizations that will employ all of these critical human resources.

Coping with the airport and airspace congestion linked to growth will require huge investments in infrastructure for airports and air navigation services, as well as in safety and security to protect both the lives of passengers and the vitality of the air transport industry.

Above all, it will require unparalleled levels of cooperation among all aviation stakeholders through the global forum that is ICAO. We have successfully played this role for more than 60 years and have constantly evolved to keep pace with technological, economic and political changes that have characterized the transformation of civil aviation.

Most recently, we have made considerable progress in moving towards a more performance-based and results-oriented Organization. We are more proactive in tackling issues and generating consensus on solutions. We are continually exploring new ways to help Contracting States meet their responsibilities through dialogue, guidance and more affirmative action where required.

The new format of the Annual Report is a demonstration of this new way of doing business. We have considerably streamlined the presentation of the Report by shifting some of the statistical material to the ICAO website. We have also grouped most of the editorial content under the Strategic Objectives for a more systematic overview of activities and achievements, including technical cooperation initiatives. For the first time, the more user-friendly Report is available on the ICAO website.

We are committed to ensuring that ICAO exercises its leadership as the central institution for global governance in civil aviation, in a spirit of cooperation among all stakeholders, so that air travellers the world over have access to air transport that is as safe, secure, efficient and sustainable as possible.

Roberto Kobeh González  
President of the Council

# HEADQUARTERS AND REGIONAL OFFICES

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International Civil Aviation Organization  
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## Regional Offices

Asia and Pacific Office  
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Eastern and Southern African Office  
United Nations Office at Nairobi  
Limuru Rd., Gigiri, Nairobi  
Kenya

European and North Atlantic Office  
3 bis, Villa Emile Bergerat  
F-92522 Neuilly-Sur-Seine Cedex  
France

Middle East Office  
Ministry of Civil Aviation Complex  
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Egypt

North American, Central American and Caribbean Office  
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Col. Chapultepec Morales, México  
D.F. 11570  
México

South American Office  
Av. Victor Andrés Belaúnde No. 147  
San Isidro, Lima  
Peru

Western and Central African Office  
15 boulevard de la République  
Dakar  
Sénégal



## CONTRACTING STATES

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Burundi  
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Georgia

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Togo  
Tonga  
Trinidad and Tobago  
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Turkmenistan  
Uganda  
Ukraine  
United Arab Emirates  
United Kingdom  
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United States  
Uruguay  
Uzbekistan  
Vanuatu  
Venezuela  
Viet Nam  
Yemen  
Zambia  
Zimbabwe



## CONTRACTING STATES MEMBERS OF THE COUNCIL

Argentina  
Australia  
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Cameroon  
Canada  
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China  
Colombia  
Egypt  
Ethiopia  
Finland

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Ghana  
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Hungary  
India  
Italy  
Japan  
Lebanon  
Mexico  
Mozambique  
Nigeria

Pakistan  
Peru  
Republic of Korea  
Russian Federation  
Saint Lucia  
Saudi Arabia  
Singapore  
South Africa  
Spain  
Tunisia  
United Kingdom  
United States



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## NOTES

The Appendices to this report are available exclusively at:

[www.icao.int/annualreports](http://www.icao.int/annualreports)

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 U.S. dollars, unless otherwise specified.

The term 1 billion represents 1 000 million.

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

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The International Civil Aviation Organization, created in 1944 to promote the safe and orderly development of civil aviation worldwide, is a specialized agency of the United Nations. Headquartered in Montreal, ICAO develops international air transport standards and regulations and serves as the medium for cooperation in all fields of civil aviation among its 190 Contracting States.





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**THE WORLD  
OF AIR TRANSPORT  
IN 2007**



# THE WORLD OF AIR TRANSPORT IN 2007

## GLOBAL AND REGIONAL ECONOMIC DEVELOPMENTS

The world economy maintained its growth momentum in 2007, despite higher prices for crude oil and refined products, as the world gross domestic product (GDP) grew at an estimated average annual rate of 4.9% in real terms (Figure 1).



**Figure 1. Development in world GDP in constant prices**  
*year-on-year changes, 1998 – 2007*

Industrialized countries experienced a slight downturn compared to 2006, posting a GDP growth rate of 2.7%. The North American economy grew by 2.2% as private consumption and residential investment continued their downward trend in the United States. This had some impact on the Canadian economy, which grew only moderately.

Growth in emerging markets and developing countries remained very strong at 7.9%, well above the world average yet with significant regional differences.

Africa's GDP increased by 6.2%, with oil-exporting countries benefiting from a continued surge in oil prices and with others benefiting from improved terms of trade and enhanced domestic policies.

The aggregate economy of the Asia and Pacific Region maintained its upward momentum with a 7.2% growth rate. Developing countries contributed significantly as their average GDP grew by 9.7%; the GDP of China and India showed remarkable growth of 11.4% and 9.2%, respectively, driven by exports,

investment and domestic demand. Asia's newly industrialized economies posted a 5.6% GDP growth. Japan's GDP grew by 2.1%, while the Australian and the New Zealand economies improved significantly with a growth of 3.9% and 3.0%, respectively.

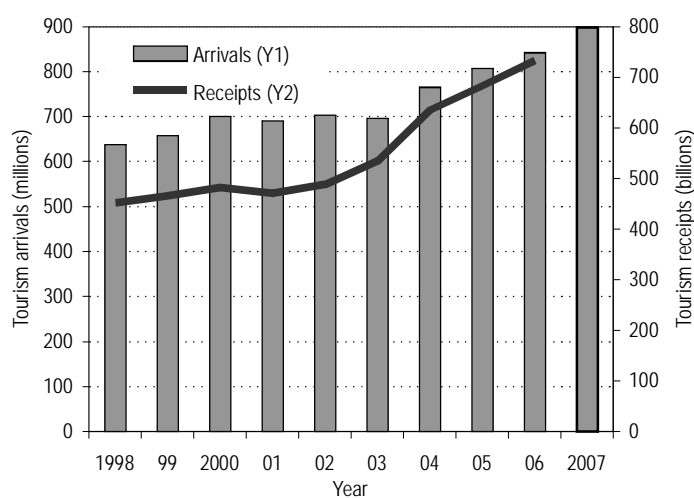
The European Region achieved an average GDP growth of 3.3%. The European currency area posted a 3.1% rate, marginally below the 2006 level, reflecting some of the effects of global financial problems. The Central and Eastern European economies grew by approximately 5.8%, while the GDP growth of the economies of the Commonwealth of Independent States (CIS) averaged 8.5%.

Economic growth in the Latin American and the Caribbean Region eased somewhat, showing an increase of 5.6%, due mainly to spillovers from the slowdown in the activity in the United States and to supply constraints in a number of commodity-exporting countries.

Benefiting from high oil prices and robust domestic demand, the Middle East Region's economy grew at a rate of 5.8%, slightly higher than the growth rate of 2006.

The world trade volume in goods and services is estimated to have grown by approximately 6.8%.

International tourist arrivals were up by an estimated 6%. According to the United Nations World Tourism Organization (UNWTO), about 898 million tourists travelled to foreign countries, some 52 million more than the previous year (Figure 2). The highest growth in arrivals was in the Middle East at about 13%, followed by Asia and the Pacific (10%), Africa (8.8%), the Americas (5%) and Europe (4%).



**Figure 2. International tourism receipts and arrivals**  
U.S. dollars, 1998 – 2007

### Economic regulation

The liberalization of international air transport regulation continued to evolve at various levels. It is estimated that this involved about 30% of country-pairs with non-stop passenger air services and almost half of the frequencies offered, through either bilateral “open skies” air services agreements or regional liberalized agreements and arrangements.

At the bilateral level, 9 new “open skies” agreements were concluded by 12 States, bringing the total to 136 agreements involving 91 States. These agreements provide for full-market access without restrictions on designations, route rights, capacity, frequencies, code-sharing and tariffs.

At the regional level, at least 12 liberalized agreements or arrangements were in operation with the following noteworthy developments:

- in January, the Single Aviation Market of the European Union (EU) was expanded from 25 to 27 States with the addition of Bulgaria and Romania;
- in February, the Association of South-East Asian Nations (ASEAN) further liberalized the Memorandum of Understanding on Air Freight Services originally signed in 2002;
- also in February, the Agreement on the Liberalization of Air Transport between the Arab States came into force, initially for five Arab League States; and
- in October, the Pacific Islands Air Services Agreement came into force, initially for six Member States of the Pacific Islands Forum.

Interaction between regions towards further liberalization was also on the rise. The EU was the most active, where the European Commission carried out specific negotiating mandates on behalf of all EU Member States. In April, the Air Transport Agreement was formally signed by the EU and the United States as a first stage for the creation of an Open Aviation Area. With provisional application from March 2008, the agreement would replace all existing bilateral air services agreements between the EU Member States and the United States. In October, the European Commission was given a new mandate to open negotiations with Canada on a comprehensive aviation agreement.

At the multilateral level, the World Trade Organization (WTO) pursued the second review of the Annex to the General Agreement on Trade in Services (GATS) on Air Transport Services. Discussions focused on significant economic and regulatory developments in the air transport sector, such as low-cost carrier services and scheduled passenger and air cargo services. Talks also covered a proposal to extend the Annex to include ground-handling and airport operation services, in addition to the current three activities covered – aircraft repair and maintenance, selling and marketing of air transport, and computer reservation system (CRS) services.

Air transport liberalization also continued to develop at the national level. In November, for example, the Government of Japan liberalized access of foreign airlines to 23 regional airports in order to strengthen the country's position as a gateway for international traffic. In the same month, Pakistan adopted a new national aviation policy to further liberalize the air transport sector, including an "open skies" policy for cargo operations.

The increase in mergers and the steady expansion of alliances, involving especially the three global groupings (Star Alliance, oneworld, and SkyTeam), continued to attract attention from regulatory authorities. In February, the United States Department of Transportation (DOT) approved the application for antitrust immunity for an alliance agreement among nine airlines of Star Alliance. In October, the European Commission published commitments submitted by eight airlines of SkyTeam, a condition for obtaining approval for their alliance agreement.

Along with the progressive liberalization of air transport regulation, the protection and improvement of airline passenger rights gained greater importance. In April, the European Commission strengthened enforcement procedures for its regulation on denied boarding, cancellation or long delay of flights. In November, the United States DOT announced new rule-making proposals for airline passenger protection, including the requirement that airlines adopt contingency plans for long delays and incorporate them into their contracts of carriage.

Some States established new national airlines, which replaced debt-ridden, State-owned incumbents, often in partnership with foreign investors. For example, following the liquidation of Air Mauritanie in October, Mauritanie Airways was formed as a joint venture involving the Government of Mauritania, domestic private interests and Tunisair.

## **AIRLINES**

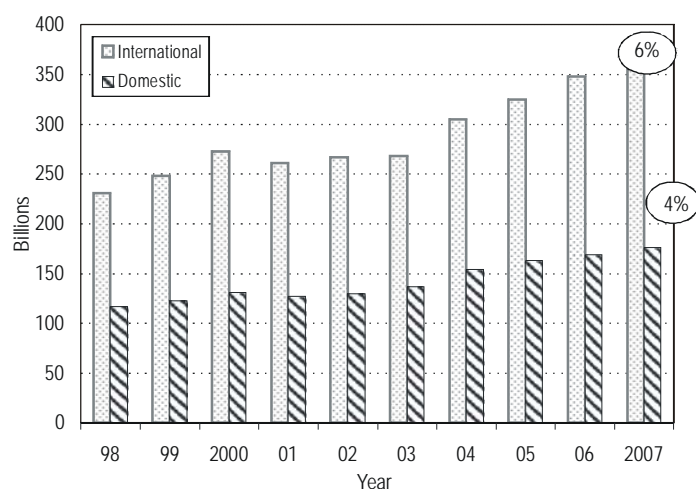
### **Scheduled operations**

#### ***Total traffic***

The total scheduled traffic carried by the airlines of the 190 Contracting States of ICAO amounted to approximately 2 260 million passengers and some 41 million tonnes of freight. The overall passenger/freight/ mail tonne-kilometres performed increased some 5.5% over 2006, with international tonne-kilometres at about 6.1% (see Appendix 1\*, Tables 1 and 2). Figure 3 shows the trend from 1998 to 2007.

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\* The Appendices to this report are available exclusively at [www.icao.int/annualreports](http://www.icao.int/annualreports).



**Figure 3. Scheduled traffic**  
tonne-kilometres performed, 1998 – 2007

The growth in passenger traffic generally outpaced seat capacity offered. As a result, the average passenger load factor on total scheduled services (domestic and international) went up to around 77%, compared to 76% in 2006. The weight load factor, however, remained unchanged at 63% due to variances in payload mix being offered by airlines and, to some extent, less utilization of available cargo capacity (see Appendix 1, Table 3).

In terms of total traffic volume (passengers/freight/mail) broken down by region, 31% was carried by North American airlines, 30% by Asia/Pacific airlines, 27% by European airlines, 6% by Middle East airlines, 4% by Latin American and Caribbean airlines and 2% by African airlines (see Appendix 1, Table 4).

Data for individual countries 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 29%, 7% 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%, 8% and 6%, respectively.

### **International passenger traffic**

Strong growth rates across all regions for international passenger traffic continued in 2007, with growth remaining at the 2006 levels of 7.6%. The breakdown in terms of percentage of total traffic carried and of growth rates for carriers is as follows: Europe, 40 and 7.5; Asia/Pacific, 27 and 5.7; North America, 17 and 5.7; Middle East, 8 and almost 18; Latin America and Africa, 7, and 8.8 (Latin America) and 7.4 (Africa).

***Domestic passenger traffic***

On the domestic front, North American carriers, which account for almost 59% of world domestic traffic, grew by 3.3%. This is a significant growth on a large base considering that they had achieved a growth of only 0.6% in 2006. Asia/Pacific carriers accounting for approximately 26% of domestic traffic grew by a strong 12% on top of a 12.4% growth 2006. For European carriers, which account for 8% of world domestic traffic, traffic growth was stagnant at 2006 levels, while Latin American carriers, which account for approximately 4% of world traffic, grew by around 9%.

***Total freight traffic***

Total scheduled freight traffic grew by approximately 4.7% compared to 2006. Freight tonnes carried worldwide on scheduled services increased to approximately 41 million tonnes compared with 40 million tonnes in 2006, while the pace of growth slowed to approximately 4.4% from 5.8%.

The decline in freight traffic growth may be the result of a slowing economy in the United States, where there was fear of a recession. Despite such an economic environment, high growth rates in passenger traffic continued across all regions and especially in the United States.

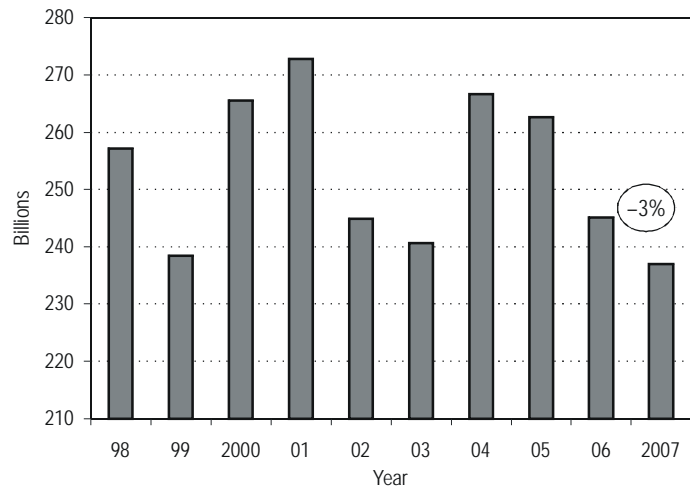
***Traffic outlook for 2008***

Looking ahead, the likelihood of high growth continuing into 2008 will be heavily influenced at a micro level by how airlines manage rising fuel prices. Fuel surcharges imposed by the airlines will make travel more expensive and may impact demand. A recessionary environment in the United States and the adverse liquidity impact of the sub prime crisis could spread to other regions, especially to the emerging economies of Asia, thereby adversely impacting growth.

***Non-scheduled commercial operations***

It is estimated that, in 2007, the total international non-scheduled passenger-kilometres decreased by about 3% compared with 2006, with the non-scheduled share of overall international air passenger traffic decreasing some 1 percentage point to about 9% (Figure 4 and Appendix 1, Table 5). Domestic non-scheduled passenger traffic represents about 8% of total non-scheduled passenger traffic and around 1% of total domestic passenger traffic worldwide.





**Figure 4. International non-scheduled traffic**  
passenger-kilometres performed, 1998 – 2007

### Aircraft accidents

Aircraft accidents covered below exclude those caused by acts of unlawful interference.

### Scheduled operations

Preliminary information indicates that there were 11 aircraft accidents involving passenger fatalities on scheduled air services worldwide, involving aircraft with a maximum certificated take-off mass of more than 2 250 kg. The number of passenger fatalities involved was 587. This compares with 12 fatal accidents and 751 passenger fatalities in 2006 (see Appendix 1, Table 6). The increase in traffic in 2007 compared to 2006 and the reduction in the number of passenger fatalities produced a decline in the number of passenger fatalities per 100 million passenger-kilometres, from 0.019 to 0.014. The number of fatal aircraft accidents per 100 million aircraft-kilometres flown reduced from the 2006 levels of 0.038 to 0.033, and the number of fatal aircraft accidents per 100 000 landings declined to 0.042 from 0.047 in 2006 (Figure 5).

Safety levels vary significantly for the various types of aircraft operated on scheduled passenger services. For instance, in turbojet aircraft operations, which account for over 98% of the total volume of scheduled traffic in terms of passenger-kilometres performed, there were 9 accidents with 567 passenger fatalities; in turboprop and piston-engined aircraft operations, which account for less than 2% of the scheduled traffic volume, there were 2 accidents with 20 passenger fatalities. The fatality rate for turbojet aircraft operations was, therefore, far lower than for propeller-driven aircraft.

**Non-scheduled commercial operations**

Non-scheduled commercial operations include both the non-scheduled flights of scheduled airlines and all air transport flights of non-scheduled commercial operators. Data available to ICAO on the safety of non-scheduled passenger operations show 14 accidents involving passenger fatalities on aircraft with a maximum certificated take-off mass of more than 2 250 kg, compared with 17 in 2006. These accidents accounted for 86 passenger fatalities, compared with 91 in 2006.

In non-scheduled operations performed with aircraft of more than a maximum certificated take-off mass of 9 000 kg, whether by scheduled airlines or non-scheduled operators, there were 8 accidents involving 77 passenger fatalities.

**ACTS OF UNLAWFUL INTERFERENCE**

During the year, 22 acts of unlawful interference were recorded. These consisted of 4 unlawful seizures, 2 attempted seizures, 2 facility attacks, 3 attempted facility attacks and 11 other acts of unlawful interference (see Appendix 1, Table 7). These acts are included in the annual statistics to assist in the analysis of trends and developments (Figure 6).

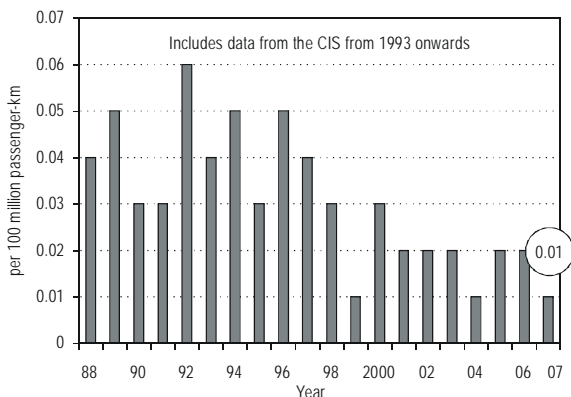
**AIRPORTS**

Passenger traffic growth in 2007 was slightly higher (between 5% and 6%) than in 2006, mainly due to increased international activity. Cargo traffic growth was even higher. As a consequence, the financial performance of airports generally improved. Net profits for the top 100 airport companies, which averaged 11.4% in 2006 and 10.4% in 2005, were expected to rise further in 2007, according to Airports Council International (ACI). ACI also reported a record level in capital expenditure of \$42.8 billion for new or expanded capacity, in order to cope with a forecast doubling of passenger traffic demand over the next 20 years.

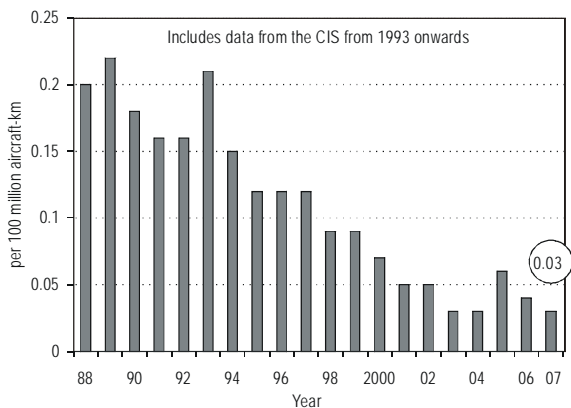
Airport privatization slowed down in 2007, with only a few transactions reported. Most airport operators focused their activities on existing assets and activities instead of further expanding into new acquisitions. Prospects for further transactions in the coming years are bright, for example, in Europe where privatization has so far involved only a small percentage of airports.

**AIR NAVIGATION SERVICES**

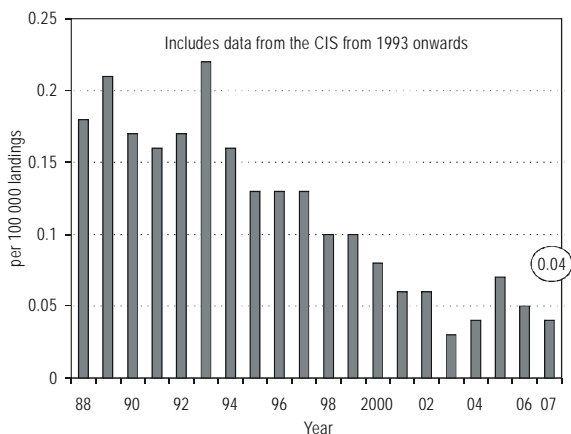
According to a survey conducted by ICAO on the financial situation of air navigation services providers (ANSPs), improvement continued, fuelled by sustained traffic growth. A majority of ANSPs showed a profit. All around the



Number of passengers killed per 100 million passenger-kilometres on scheduled services

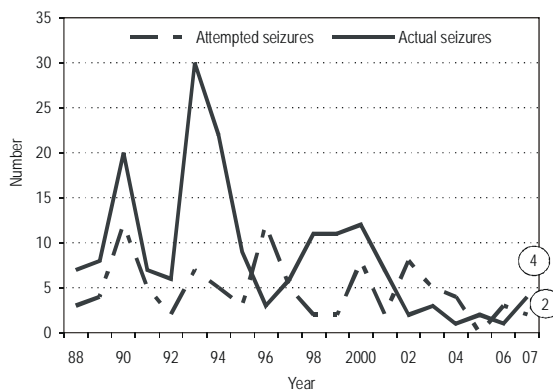


Number of fatal accidents per 100 million aircraft-kilometres on scheduled services

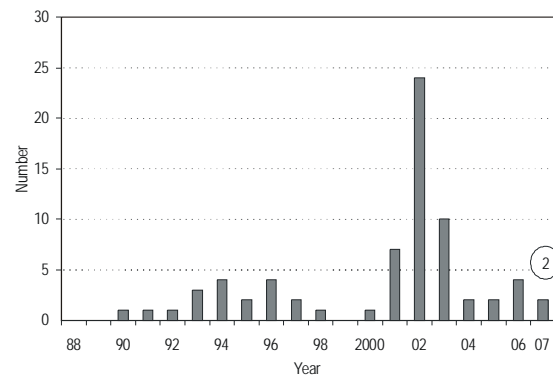


Number of fatal accidents per 100 000 landings by aircraft on scheduled services

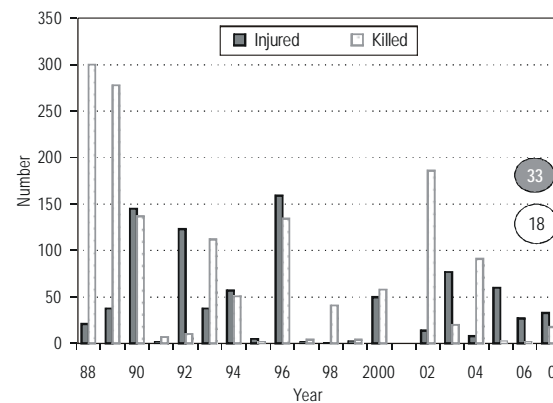
Figure 5. Aircraft accident statistics 1988 – 2007



Acts of unlawful seizure



Acts of facility attacks



Number of persons killed or injured

\*For 2001: Injured — 3 271, Killed — 3 525.

Figure 6. Aviation security statistics 1988 – 2007



world, stakeholders were focused on the performance of air navigation services, aided by the discussions at the Worldwide Symposium on the Performance of the Air Navigation System organized by ICAO in March.

In Europe, the Single European Sky (SES), the SESAR (Single European Sky ATM Research), and the Functional Airspace Blocks (FABs) initiatives were progressing. In March, the European Commission issued a mid-term status report on the creation of FABs, confirming that they should be based on operational requirements – in particular, traffic flows – rather than on existing national borders. In July, the European Commission's high-level group on the future aviation regulatory framework issued a report that contained a roadmap with concrete measures on how to boost performance of the air traffic management system. The report recommended strong performance regulation, where market forces fail, and changing governance structures, so as to bridge the gap between decision making and funding.

In the United States, the restructuring of the Air Traffic Organization (ATO), part of the Federal Aviation Administration (FAA), continued. The FAA is transforming air traffic control from a ground-based system of radars to a satellite-based system through the Next Generation (NextGen) Air Transportation System Integrated National Plan. The planning and implementing of NextGen are being carried out by a public-private partnership made up of representatives from various United States Departments and by aviation experts from the private sector.

# THE ICAO BUSINESS PLAN



# THE ICAO BUSINESS PLAN

## **Becoming a performance-based, results-oriented Organization**

Significant progress was made throughout 2007 in transforming ICAO into a performance-based and results-oriented Organization, in keeping with the Organization's Business Plan. The most significant improvements are highlighted in this Annual Report which, in its more accessible format and with links to the ICAO website, is a graphic illustration of this new way of doing business.

Responding to the outcome of the 36th Session of the ICAO Assembly and to facilitate the transition to results-based planning and results-based budgeting, the Council, in November, reviewed the Business Plan for the next triennium (2008–2010) to support the implementation of the Strategic Objectives. The task involved identifying and implementing additional ways and means of further increasing ICAO's efficiency as an ongoing process throughout the Organization.

## **Genesis of the Business Plan**

In 2004, the Council approved a consolidated vision and mission statement for the Organization: ICAO works to achieve its vision of safe, secure and sustainable development of civil aviation through cooperation amongst its Contracting States. To implement the vision, six Strategic Objectives were established for the period 2005-2010:

- Safety – Enhance global civil aviation safety
- Security – Enhance global civil aviation security
- Environmental Protection – Minimize the adverse effect of global civil aviation on the environment
- Efficiency – Enhance the efficiency of aviation operations
- Continuity – Maintain the continuity of aviation operations
- Rule of Law – Strengthen law governing international civil aviation

These objectives reflect the status, role and responsibilities of ICAO as the:

- leader in the development and promotion of Standards and Recommended Practices (SARPs) and auditing of compliance with them;
- institution facilitating and assisting its Contracting States in the implementation of SARPs, Air Navigation Plans, and ICAO policies;
- promoter of global air transport policies for an efficient international civil aviation system;
- ultimate venue for crisis management in international civil aviation;

- body dealing with the development and diffusion of international air law and with the settlement of international civil aviation disputes; and
- central institution for global governance in civil aviation.

They also form the basis of the Strategic Positioning of the Organization as:

- the global driver of safety management systems designed to achieve measurable results in aviation safety;
- the promoter and coordinator of performance-based security measures amongst States;
- the leading international organization pursuing unified and coordinated measures to reduce civil aviation's impact on the environment; and
- the key driver in the implementation of harmonized global air traffic management systems and performance-based efficiency improvements.



### **From concept to action**

The Business Plan translates the Strategic Objectives into action plans and establishes a link between planned activities, organizational cost and performance assessment. A vital dimension of this approach is the integration of programmes and activities of Bureaus and Regional Offices for optimum allocation of resources based on agreed priorities.

Together, the Business Plan and the related budget provide the basis for a reporting framework that unites strategies, activities, funds, human resources and time frames into a coherent and effective means of monitoring and evaluating outcomes. By engaging staff at all levels in the performance improvement process, highlighting responsibilities, and by holding managers accountable for their performance and regularly measuring, monitoring and

evaluating results, the Organization will strengthen accountability, demonstrate value for money and improve overall performance at the operational and strategic levels.

Moving from concept to action and results also involves a set of Supporting Implementation Strategies and the successful Technical Co-operation Programme which has a long tradition of supporting Contracting States in the implementation of ICAO regulations, procedures and policies.



**SAFETY**



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## 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.

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# SAFETY

It is now widely-recognized that the traditional reactive approach to improving safety is no longer appropriate nor sufficient and that there is a need to shift to a proactive and predictive, risk-based safety regime. While compliance with Standards and Recommended Practices (SARPs) remains the cornerstone of international civil aviation safety, strict enforcement of regulations and prescribed procedures must be coupled with the widespread implementation of safety management systems (SMS). These two areas were the subject of much activity in 2007.

## Universal Safety Oversight Audit Programme (USOAP)

The purpose of USOAP is to assess the capability of a State to perform effective oversight of its own civil aviation system. The audits themselves serve to highlight shortcomings in oversight capabilities, while the corrective action plans based on the findings lead to greater compliance with SARPs — and ultimately to enhanced safety.

The mandatory programme is based on strict principles: sovereignty, universality, transparency and disclosure, timeliness, all-inclusiveness, in a systematic manner, with consistency and objectivity, fairness and quality (Figure 7).

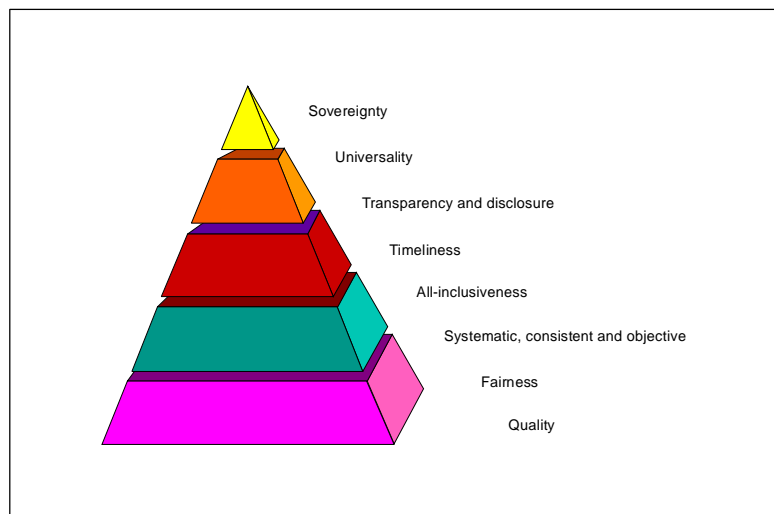


Figure 7. USOAP principles

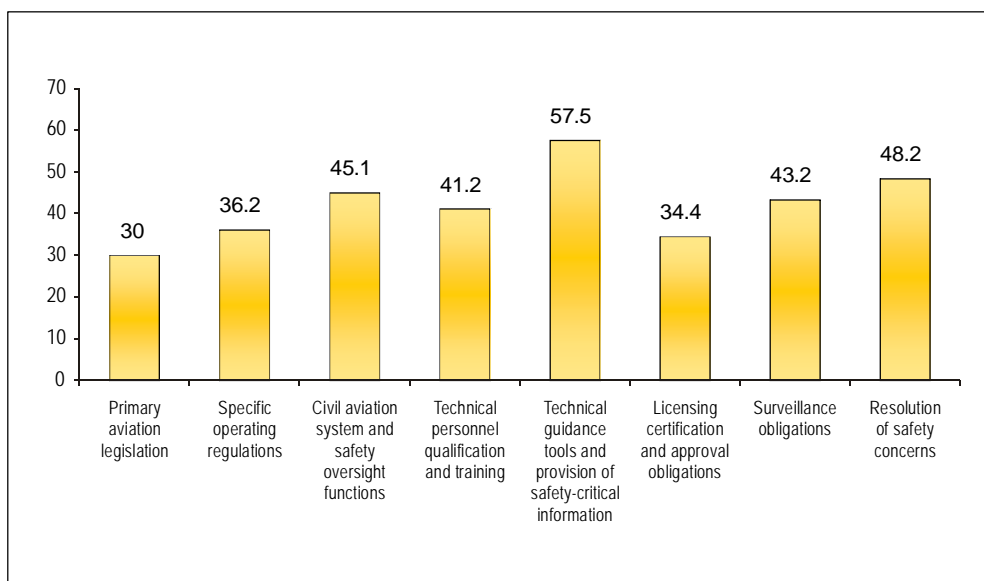
During 2007, 43 Contracting States were audited under the comprehensive systems approach (CSA) that took effect in 2005. The expanded USOAP mandate covers the safety-related provisions contained in all safety-related Annexes to the Convention on International Civil Aviation. Personnel licensing, operation and airworthiness of aircraft, air traffic services, aerodromes, and aircraft accident and incident investigation constitute the core elements of the audit which, together with national aviation legislation and organization, provide a complete picture of a State's civil aviation system.

By the end of 2007, ICAO had completed 78 CSA audits as part of its current six-year audit cycle ending in 2010. Among the initial audits was one international organization, the European Aviation Safety Agency (EASA).

Preparing for a CSA audit involves a process that requires States to conduct a critical review of their safety oversight systems and that, in itself, promotes safety. With the active logistical support of ICAO, States have a unique opportunity to review and revise their civil aviation structure, legislation, regulations processes, procedures and effective enforcement of aviation safety-related standards. All States audited thus far have taken advantage of this opportunity and have received remarkable support from their respective Governments. While the on-site phase of the audit allows States to obtain a wide-ranging, documented and tangible assessment of status of implementation of aviation standards impacting on aviation safety, the post-audit phase and the preparation of a corrective action plan to remedy audit findings lay foundations for future safe and efficient operations.

The successful implementation and evolution of USOAP led the Assembly in September 2007 to direct ICAO to examine the feasibility, among the various options that could be considered, of a new approach based on the concept of continuous monitoring, to be implemented at the end of the current audit cycle in 2010. A report on initiating such an approach in 2011, relying on analyses of audit results using tools that collect and maintain current safety-related information, will be presented to the next regular session of the ICAO Assembly in 2010.

During 2007, ICAO issued its first annual analysis of USOAP audit results, covering a two-year period that ended in May 2007 and providing a wealth of information obtained from 53 CSA audits. The initial analysis, which presents an overview of safety concerns at the national, regional and global levels, was distributed to hundreds of delegates at the Assembly; future reports will be disseminated more widely. Figure 8 from the USOAP 2007 report highlights the worldwide lack of effective implementation of the eight critical elements of a safety oversight system.



**Figure 8. Lack of effective implementation of the critical elements of a safety oversight system (%)**

With adoption in 2006 of a global safety strategy based on the full transparency and sharing of safety information, disclosure of safety data has become practice. By the end of 2007, 127 Contracting States had consented to permit ICAO to disclose either their full safety oversight audit report or an executive summary on the Organization's public website, with a deadline of 23 March 2008 for all States to do so. Such openness can encourage States to correct outstanding deficiencies more quickly and may help potential donors identify those in need of financial or human resources in correcting shortcomings.

A similar mechanism has been developed to address significant safety concerns identified by USOAP. The high-level Secretariat Audit Results Review Board (ARRB) was established by ICAO at the end of 2006 as part of an overall coordinated strategy for working with States that are found to have significant compliance shortcomings with respect to SARPs or that do not participate fully in ICAO's safety oversight and security audit processes.

During 2007, ICAO continued to promote awareness of the comprehensive systems approach to audits through regional seminars and workshops which, among other things, served to promote an exchange of information arising from USOAP. ICAO also continued to train auditors, with one course held in June. During the year, 65 auditors were deployed by USOAP; in addition to ICAO staff from Headquarters and the seven Regional Offices, several States assisted ICAO by seconding their experts to the Programme.

### **Safety Management Systems (SMS)**

A fundamental challenge that ICAO is addressing head-on in this area is a basic lack of knowledge and experience among many States as well as stakeholders. During 2007, the Organization delivered 46 in-house and 14 regional SMS courses within the seven administrative regions, in addition to three COSCAP (Cooperative Development of Operational Safety and Continuing Airworthiness Programme) courses. As a result, a total of 2 065 participants from the following States received training: Argentina, Aruba, Bolivia, Brazil, Cape Verde, Chile, China (Hong Kong), Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ecuador, El Salvador, France, Greece, Iceland, India, Italy, Jordan, Mexico, Nepal, Netherlands Antilles (Curaçao), Netherlands (on behalf of ABIS States), Panama, Paraguay, Peru, Poland, Portugal, Republic of Korea, Saudi Arabia, Serbia, Spain, Sri Lanka, Suriname, Tunisia, Ukraine, United Arab Emirates, United Kingdom and United States.

Four one-day senior management SMS workshops were also delivered in Italy, Mexico, Malaysia and Spain, and the first regional implementation of an SMS workshop was held at the Regional Office in Lima, with 40 attendees representing Argentina, Bolivia, Brazil, Chile, Colombia, Paraguay, Peru and Uruguay.

All Regional Offices of ICAO supported the implementation of SMS by providing a number of ICAO SMS Train-the-Trainer courses.

While the sessions were being held around the world, intensive work was carried out at Headquarters towards the harmonization of SMS-related provisions in the Annexes to the Convention on International Civil Aviation, a process actually initiated in 2005. A proposal was introduced for the development of harmonized provisions in Annexes 1, 6, 8, 11, 13, and 14. The proposal is centred on the introduction of two frameworks, one for the implementation and maintenance of a State's safety programme and the other for the implementation and maintenance of a service provider's SMS. These changes will be submitted to Council for adoption.

### **Global Aviation Safety Programme**

Another essential building block for strengthening safety worldwide is the revitalized ICAO Global Aviation Safety Plan (GASP). GASP was initially formulated in 1997 to provide an overarching vision for aviation safety. In 2007, the Plan was expanded to incorporate the Global Aviation Safety Roadmap developed by the industry, with the cooperation of ICAO. The primary objective is to reduce the risk of accidents by providing a common frame of reference for all stakeholders. This facilitates a more proactive approach to aviation safety and helps to better coordinate and guide safety policies and initiatives worldwide. The new plan is now relevant for ICAO as well as for all regulatory and industry stakeholders.

The strategic importance of GASP was recognized by the 36th Session of the Assembly in September. Assembly Resolution A36-7 – *ICAO Global Planning for Safety and Efficiency* stresses the need to implement GASP and maintain its currency in cooperation and coordination with all stakeholders. The Resolution further establishes the Plan as a universal platform through which regional, subregional and national implementation plans are developed and put into action. At the ICAO level, GASP provides the methodology and focus that is required to work towards ICAO's Safety Strategic Objective and is used to prioritize and plan safety initiatives, in addition to measuring their impact.

There were a number of other initiatives that, combined, are expected to produce improvements in the overall level of safety.

### **Accident and incident investigation**

The availability of safety data is important in supporting ICAO's safety activities. Effective incident and accident investigation is a vital source of such information, and in 2007, it was agreed that an Accident Investigation and Prevention (AIG) Divisional Meeting would be held in Montreal from 13 to 18 October 2008, based on the theme of "Developing investigations to enhance safety worldwide".

### **Accident and incident data reporting**

Along the same lines, Accident/Incident Data Reporting (ADREP) and the European Co-ordination Centre for Aviation Incident Reporting Systems (ECCAIRS) are fundamental mechanisms for the collection of safety data. To help States establish a safety database for more effective analysis of information and better sharing of safety data amongst themselves and with ICAO, the Organization held three ADREP/ECCAIRS training courses in Costa Rica, Mexico and Jamaica, with a total of 89 participants. A fourth ADREP/ECCAIRS course in Dakar with 25 participants was coordinated by ICAO.

### **Advisories for tropical cyclones and volcanic ash**

The provision of information for the avoidance of hazardous phenomenon is critical to safe aircraft operations. Improvements in the implementation of advisories for tropical cyclones and volcanic ash were introduced in 2007 through Amendment 74 to Annex 3.

### **Unmanned Aircraft Systems (UAS)**

The subject of unmanned aircraft systems (UAS) is increasingly on the minds of the global aviation community, and in 2007, the establishment of the Unmanned Aircraft Systems Study Group (UASSG) was approved. The UASSG will assist the Secretariat in coordinating the development of ICAO SARPs, procedures and

guidance material for civil unmanned aircraft systems in order to support a safe, secure and efficient integration of UAS into non-segregated airspace and aerodromes.

### **Regional initiatives**

Agreement was reached for implementation of an ICAO-compliant Flight Level Orientation Scheme (FLOS) in the Western Pacific/South China Sea area during 2008.

Existing States/agencies providing airspace safety monitoring services for the Asia/Pacific Region would continue to absorb the cost of providing these services, thereby obviating the need for regional funding arrangements.

A regional air navigation deficiencies reporting database was developed and implemented in the Europe, Asia/Pacific and Middle East Regions.

The support for certification of aerodromes continued; as a result, 13 international aerodromes were certified and the certification of an additional 22 international aerodromes is in progress in different regions.

Follow-up actions pertaining to the elimination of air navigation deficiencies in the regions continued, notably with respect to bird hazard and emergency planning.

A regional Accident/Incident Electronic Reporting Database (ECCAIRS) was implemented as a means of accident/incident information classification in the ICAO ADREP taxonomies.

The establishment of a Regional Safety Oversight Organization was promoted within the five East African Community Partner States.

The activities of the European Safety Strategy Initiative (ESSI) were supported to identify and mitigate the most pressing aviation safety threats in Europe.

ICAO contributed to the rule-making activities of the Joint Aviation Authorities (JAA) to achieve the highest practical degree of compliance with applicable ICAO Standards and Recommended Practices (SARPs).

The EUROCONTROL safety regulatory requirements (ESSAR), translated into Russian, are now available as guidance material in the Eastern part of the ICAO European Region.

A number of tools to assist timely implementation of the ICAO language proficiency requirements were developed.



**Technical cooperation projects and activities**

There were 51 national and 10 regional technical cooperation projects contributing to further improving aviation safety around the world.

Support also came from the recruitment of 76 international experts who provided assistance to national civil aviation administrations in a broad range of disciplines, such as accident investigation and prevention, airworthiness certification, flight operations, personnel licensing, safety management systems, aerodrome certification, rescue and firefighting and human resource development.

Developing local expertise is equally important. The ICAO Fellowship Programme provided training for 170 nationals, primarily in the fields of accident investigation and prevention, aircraft maintenance and airworthiness, flight operations, inspector training (personnel licensing, flight operations and airworthiness), safety management systems, dangerous goods, aviation medicine and flight simulator training. In addition, more than 1 300 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 dimension of strengthening human resources. ICAO was involved in major equipment purchases of airport lighting and auxiliary equipment, such as electrical power plants, as well as rescue and firefighting vehicles, language laboratory and other training equipment. The procurement process for these items included training for 92 nationals in various countries.

The Technical Co-operation Bureau is currently implementing 10 COSCAP projects with the participation of 82 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.

**SECURITY**



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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.

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# SECURITY

The global air transport system is secure but remains vulnerable. ICAO is well aware of the challenges facing governments who must implement effective anti-terrorist measures, while safeguarding the efficiency of civil aviation and public confidence in air travel. The Organization works with States and the industry on adapting security-related methods and technologies to meet new and emerging threats, with the parallel objective of facilitating the rapid and efficient flow of passengers through airports.

## **Liquids, aerosols and gels (LAGs) as explosives**

Throughout the year, ICAO continued the development of guidelines to address the potential security threat involving liquids used as explosives, as raised by the alleged terrorist plot in the United Kingdom in August 2006 against civil aircraft flying over the North Atlantic. Shortly after that event, the Council approved security control guidelines for screening liquids, aerosols and gels (LAGs) and recommended that States implement them no later than 1 March 2007 as interim measures while additional research was being carried out.

In March, the Council approved for immediate implementation a series of recommendations of the Secretariat Study Group on the Carriage and Screening of LAGs, including specifications for tamper-evident bags. The Group also considered operational aspects of security controls for LAGs, particularly exemptions to be implemented worldwide for liquids purchased either at airport retailers or on board aircraft and carried by transfer passengers.

This led the Council to approve guidelines for validation of compliance with LAGs carried by passengers during transfer, as part of an overall effort to develop practical, sustainable and harmonized security procedures. The guidelines were forwarded to States in July 2007 for implementation as soon as possible.

To help States implement the new security control guidelines, a meeting with manufacturers of Security Tamper-Evident Bags (STEBs) proposed a common interpretation of technical specifications for STEBs, as well as the establishment of a manufacturer's representative body which would facilitate work and cooperation with international and regional organizations. It was felt that this would support the development of proper training and guidance material for all potential users of STEBs.

### Revision of the Security Manual

Developmental work on creating a new five-volume edition of the *Security Manual* was completed. This guidance material is to help States comply with the SARPs contained in Annex 17 — *Security*. It provides specific advice on the prevention of and response to acts of unlawful interference through the application of an aviation security system comprised of four main elements: legal framework and security oversight; airport design, infrastructure and equipment; human resources recruitment, selection, training and certification; and procedures and the implementation of security measures.

Volume I, *National Organization and Administration* – guidance on legal aspects, international cooperation and additional security measures such as in-flight security officers, armed personnel, the implementation of a national aviation security programme, quality control and procedures for handling sensitive information.

Volume II, *Recruitment, Selection and Training* – guidance material on the national training policy and national civil aviation security training programme including recruitment, selection, training and certification of security staff as well as the selection and training of non-security staff, and training development.

Volume III, *Airport Security, Organization, Programme and Design Requirements* – guidance material on airport organization, airport security programmes and airport design requirements.

Volume IV, *Preventive Security Measures* – guidance material on preventive procedures with regard to access control, aircraft operator security, general aviation and aerial works, passengers and cabin baggage, hold baggage, special categories of passengers, cargo, and mail, and security procedures for other entities.

Volume V, *Crisis Management and Response to Acts of Unlawful Interference* – guidance material on threat and risk assessment, contingency plans, collection and transmission of information during an act of unlawful interference, and the subsequent review, analysis and reporting of any act of unlawful interference.

### Aviation Security Audits

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

In 2007, ICAO aviation security audit teams completed audits of 30 States and their primary international airports. As well, 45 follow-up visits were conducted to validate the implementation of State corrective action plans. USAP has now concluded its first cycle of audits with a total of 181 States having benefited from an initial audit; the remaining 9 States will be audited when security conditions permit.

The 36th Session of the ICAO Assembly (Assembly Resolution A36-20, Appendix E), recognizing the invaluable contribution of USAP in strengthening aviation security worldwide and in establishing a global aviation security system, requested the continuation of the programme following the initial cycle of audits. The Assembly also requested that audits focus, wherever possible, on a State's capability to provide appropriate national oversight of its aviation security activities through effective implementation of the critical elements of a security oversight system. It also urged that future audits be expanded to include the relevant security-related provisions of Annex 9 — *Facilitation*. To effect this evolution of the programme, the Safety and Security Audits Branch developed live, online briefing sessions and an e-learning, web-based training course and began offering recertification training to nominated aviation security experts.



### MRTD Programme

Machine Readable Travel Documents (MRTDs), most notably electronic passports with biometric enhancements, represent one of the most effective ways of identifying and screening passengers passing through the air transport system. A number of improvements were brought to the MRTD programme in 2007.

One was the publication of a Supplement to Doc 9303, which is an intricate set of precise specifications that have to be both technically sound and understandable to readers at all levels, to be used for issuing all types of MRTDs. The Supplement will bridge the formal language of Standards and Technical Reports with the needs of the travel document community for timely and official direction. It will also serve as a forum for addressing issues prior to revisions to Technical Reports or Doc 9303.

In February, the Council gave its full support to the establishment, under the aegis of ICAO, of the Public Key Directory (PKD), an essential component of the “ICAO Blueprint” for the issuance of ePassports. The PKD allows for the verification and authentication of ePassports worldwide and will contribute to significantly improving the effectiveness of procedures at border control and passport security checkpoints.

Dissemination and sharing of information on all aspects of MRTDs was also a priority throughout the year.

- The Third Symposium and Exhibition on ICAO MRTDs, Biometrics and Security Standards held in October sensitized representatives of Border Control Agencies, Airports and Airlines to current issues and technologies.
- Two events, co-hosted with the Organization for Security and Co-operation in Europe (OSCE), reviewed the implementation of the relevant commitments taken by participating States, including the implementation of ICAO MRTD standards and specifications, and considered important new developments, as well as common and national practices.
- ICAO participated in the United Nations Security Council's Counter-terrorism Committee in Nairobi to examine how States can better secure their borders against terrorists, hinder the movement of terrorists across national boundaries, bolster the ability of countries to detect illicit arms shipments and prevent the abuse of the refugee and asylum systems. The MRTD Programme was acknowledged to be one of the most important tools available for enhancing the security of global civil aviation, promoting global inter-operability and preventing terrorist mobility across borders.
- ICAO also took part in the sixth Government Discussion Forum on Electronic Identity Documents, organized by the Asia Pacific Smart Card Association (APSCA) and the Government of Australia (Passport Office and Custom Service), to enable government officers from all countries to discuss technical and business issues related to the introduction, deployment and development of national smart identity cards, ePassports, automated border control, risk-based passenger facilitation and national identity management.

- Two issues of the MRTD Report, available in paper and e-versions, provided additional technical and policy information.

Beyond information and guidance, ICAO provided operational assistance to States in implementing MRTD-related projects. For example, a mission to Ecuador examined passport programmes in terms of security, system integrity, and compliance with ICAO standards and specifications, with a view to making possible recommendations for enhancement. The exercise proved fruitful in assessing the situation regarding travel documents and ID cards in Ecuador, establishing a mechanism to carry out the recommendations and develop a strategy and template to perform MRTD assistance and assessment missions in other countries. Under the ICAO assistance programme, assistance was also offered to Portugal, India, Serbia, Kyrgyzstan, Croatia, Bosnia and Herzegovina, Fiji and Vanuatu.

### **Technical cooperation projects and initiatives**

One regional and 14 national technical cooperation projects worldwide helped civil aviation administrations and international airports improve their security systems.

ICAO recruited 20 international aviation security experts to assist in the review of national aviation security programmes, airport security programmes and aviation security regulations; provide on-the-job training to local aviation security inspectors and instructors; and assist in the implementation of machine readable travel document systems.

Fellowship training was offered to 5 aviation security inspectors, and seminars and workshops on aviation security-related subjects were given to more than 100 participants from countries in the Asia/Pacific Region.

In the same Region, the implementation of the Cooperative Aviation Security Programme (CASP) project continued with the participation of 20 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 major security purchase involved baggage X-ray equipment for airports.



# **ENVIRONMENTAL PROTECTION**



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## **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.

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# ENVIRONMENTAL PROTECTION

Aviation environmental protection is a complex challenge involving many inter-connected technical, operational, economic, social and political factors. In 2007, the Organization was particularly active in the area of aircraft engine emissions and their impact on the environment, a reflection of the growing concern of the world community over climate change.

## **CAEP/7 Meeting**

In February, ICAO's Committee on Aviation Environmental Protection (CAEP) held its seventh meeting (CAEP/7). Full CAEP meetings are convened early each Assembly year to report on the Committee's activities for the triennium under review and formulate recommendations, including the proposal of new Standards and Recommended Practices, for consideration by the ICAO Council. Seven new ICAO guidance documents for addressing aircraft noise and emissions, as well as amendments to existing ICAO publications, were proposed and subsequently approved by the Council on 15 March.

A major achievement of CAEP/7 was the definition of mid- and long-term (10 and 20 years) technology goals for emissions of nitrogen oxides (NO<sub>x</sub>) from jet engines. This will provide an effective planning horizon for engine manufacturers. The Committee agreed to establish similar technology mid- and long-term goals for noise and engine fuel burn.

CAEP has developed guidance material, to be published as an ICAO circular, providing general information on the assessment of noise and emissions (NO<sub>x</sub> and CO<sub>2</sub>) benefits accrued from the implementation of optimized noise abatement procedures. New guidance material on recommended methods for computing noise contours around airports was also proposed.

In addition, CAEP developed guidance on local air quality for assessing and quantifying airport source emissions and guidance on emissions levies related to local air quality consistent with ICAO policy.

An initial assessment of the models and databases currently used to estimate aircraft emissions locally and globally was completed. It was acknowledged that much effort was still required to refine these models as well as other modelling tools. Of note is the fact that the data required for the models remains a problem in some parts of the world.

Market-based measures, including emissions trading, were also discussed and guidelines for incorporating aviation emissions into national emissions trading schemes were developed consistent with the United Nations Framework

Convention on Climate Change process. The draft guidance focuses on aviation-specific issues, identifies options and offers potential solutions. The ICAO Council, when reviewing the CAEP/7 recommendations, agreed that the guidance provided valuable technical information to States interested in including international civil aviation in an emissions trading scheme, but that it should be published initially as a draft.

CAEP has also collected information on voluntary actions by States and aviation stakeholders to reduce aircraft emissions. This information will be updated on an annual basis and is posted on the ICAO website. Sharing the information will help entities to initiate environmental protection measures or improve their current activities.

### **Colloquium on Aviation Emissions**

In May, ICAO hosted a Colloquium on Aviation Emissions at which a broad range of experts from all over the world presented up-to-date assessments of the latest technological advances in their respective disciplines and highlighted possible solutions to address aviation emissions' impacts. The Colloquium met its objective of sensitizing potential participants to the ICAO Assembly, as well as the aviation community at large, to the most recent information available on the subject. The well-attended event generated positive reactions and made it possible to considerably augment the Organization's website with contributions from highly respected professionals.

### **Impacts Workshop**

A workshop on "Assessing Current Scientific Knowledge, Uncertainties and Gaps Quantifying Climate Change, Noise and Air Quality Aviation Impacts" was held at ICAO from 29 to 31 October. The objective of this workshop was to gather international experts to identify knowledge gaps in relation to climate, air quality and noise impacts of aviation. The workshop was divided into three focus groups in relation to these three subject areas; each group was led by two co-chairpersons and attended by 20 scientific experts as well as experts on issues associated with trade-offs and interdependencies among these impacts.

### **ICAO Environmental Report**

Another major initiative was the publication, in September, of ICAO's first Environmental Report. The Report represents an invaluable resource to fully understand the technical and policy aspects of aviation's impact on the environment and responds to the critical need for the most authoritative, transparent and credible technical and scientific information on which to base discussions and decisions. The Report also provides detailed information on ICAO's achievements in the areas of both noise and aircraft engine emissions. This reference document has already made its mark and is freely available on ICAO's website.

### The ICAO Assembly

Environment issues featured prominently on the agenda of the Assembly. ICAO Contracting States reviewed and unanimously endorsed the work undertaken by the Organization on technical and operational measures to address aircraft noise and engine emissions.

The Assembly acknowledged that today's modern aircraft are about 70% more fuel efficient in terms of CO<sub>2</sub> production than first-generation turbojet aircraft, NO<sub>x</sub> emissions have been reduced by some 40%, and soot and hydrocarbons virtually eliminated. However the anticipated increase in traffic will result in a corresponding rise in CO<sub>2</sub> emissions which, in turn, could cause the aviation share of anthropogenic CO<sub>2</sub> to grow above its current contribution, estimated at 2% of the global total.



Discussions focussed on market-based measures to limit or reduce the impact of aircraft engine emissions on the environment. Such measures include voluntary measures, emissions-related charges and emissions trading. Of these topics, the majority of exchanges centred on emissions trading.

There was general agreement on the value of emissions trading, together with the reduction of emissions at source and operational measures, for controlling the impact of aviation emissions on the environment. The Assembly, however, had difficulty reconciling the concept of common but differentiated responsibilities contained in the United Nations Framework Convention on Climate Change (UNFCCC) with the concept of non-discrimination contained in the Convention on International Civil Aviation.

The majority of States considered that participation in an emissions trading scheme should only be on the basis of mutual consent. An Assembly Resolution (A36-22) was consequently developed which contained this element of mutual

consent. Forty-two European States (which comprise approximately 20% of ICAO's membership) reserved their position regarding this aspect of the Resolution.

The Assembly set the Organization's work programme for the next triennium which included, among other things, the following elements:

- a) the regular assessment of the impact of aviation on the environment and the continued development of tools for this purpose;
- b) the continued development and updating, through CAEP, of standards and guidance for Contracting States on the application of measures aimed at reducing or limiting the environmental impact of engine emissions;
- c) the vigorous development of policy options to limit or reduce the environmental impact of aircraft engine emissions and the provision of advice as soon as possible to the Conference of the Parties of the UNFCCC on technical solutions and market-based measures, taking into account the potential implications of such measures for developing as well as developed States; and
- d) the formation of a new group on International Aviation and Climate Change composed of senior government officials representative of all ICAO regions, with the equitable participation of developing and developed States, for the purpose of developing and recommending to ICAO an aggressive Programme of Action on International Aviation and Climate Change, based upon consensus.

In addition, the Assembly recognized and encouraged supplementary work on establishing a set of aviation environmental indicators to evaluate the performance of aviation operations and the effectiveness of standards, policies and measures to mitigate aviation's impact on the environment and to promote improved understanding of the potential use, and the related emissions impacts, of alternative aviation fuel.

On a regional basis, continuous and comprehensive activities will continue through the respective planning and implementation regional groups (PIRGs) towards designing more environmentally beneficial air routes and improved operational procedures for international civil aviation.

### **Cooperation with other UN bodies**

Environmental protection and mitigating climate change is one of the primary areas of work of the United Nations. In this context, ICAO as the UN agency responsible for international civil aviation, exercised leadership on environmental issues relating to international civil aviation, including greenhouse gas (GHG) emissions, studied policy options to limit or reduce the impact of aircraft engine

emissions and continued to cooperate with organizations involved in policy-making in this field, notably the UN Framework Convention on Climate Change (UNFCCC) and its Subsidiary Body for Scientific and Technological Advice (SBSTA).

Of interest is the work of ICAO in developing a methodology for the calculation of the carbon dioxide emissions attributable to air travel. The intent is for a calculator to be used as the primary tool for calculating aviation emissions for use in the UN's Climate Neutral Initiative. It would also be a source of data for use in carbon offset programmes. This work is being carried out in liaison with the UN Environment Management Group (EMG).

In 2007 ICAO provided comments to the International Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) "Climate Change 2007" and in December 2007 participated in the UNFCCC Conference in Bali. ICAO also participated in the UN Commission for Sustainable Development (UNCSD) meeting in May and sent statements to the UN Chief Executives Board (UN CEB). ICAO also has been cooperating with the World Health Organization (WHO) in an ongoing study of noise effects on human health. The developments in the International Maritime Organization's Marine Environment Protection Committee (MEPC) have been followed. Input was also provided to several UN publications and materials like the CEB questionnaire and the UN gateway on climate change.

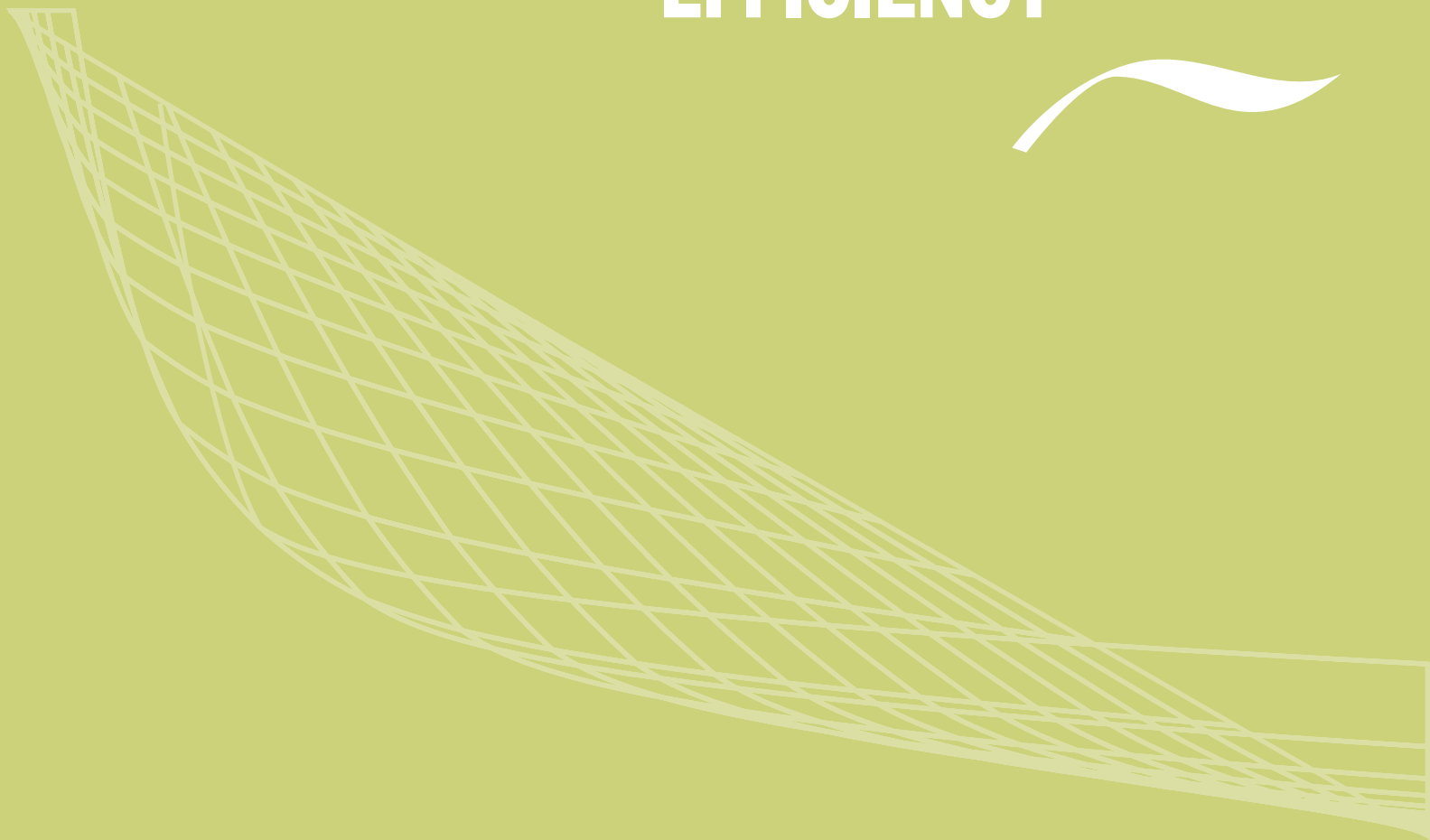
#### **Technical cooperation projects and initiatives**

Two technical cooperation projects in environmental protection were implemented.

Three international experts were recruited to support one civil aviation administration and one international airport in the evaluation and improvement of their environment planning, preparation of environmental impact studies and implementation of noise abatement rules and routes.

In-country training on noise abatement was provided to national personnel of one State.

**EFFICIENCY**





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## **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.

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# EFFICIENCY

Enhancing the efficiency of aviation operations was achieved through a number of significant activities in 2007. Technical and operational initiatives focussed on the development, coordination and implementation of air navigation plans that reduce operational unit costs, facilitate increased traffic and optimize the use of existing and emerging technologies. Also involved were regulatory and policy developments, as well as a number of supporting initiatives around the world which, taken as a whole, further increased the efficiency of the global air transport system.

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

Performance-based navigation (PBN) is a key component of the Global Air Navigation Plan and addresses objectives of the Global Air Traffic Management Operational Concept. It enables harmonized and predictable flight paths which result in more efficient use of existing aircraft capabilities, as well as improved safety, greater airspace capacity, better fuel efficiency and resolution of noise issues. In 2007, a critical milestone was reached when important ICAO guidance material was completed: the *Performance-based Navigation Manual*, the *Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual* and, in an attachment to State letter AN 11/45-07/22, guidance on issuing PBN operational approvals, the first step in enabling regions and States to implement PBN as part of a performance-based global air traffic management (ATM) System.

To further assist States in implementing PBN, four of ten planned familiarization seminars were held in Montreal, Bangkok, New Delhi and Cairo with the remaining six to be held in 2008. To assist with PBN implementation in the regions, GREPECAS, APIRG, MIDANPIRG and APANPIRG (the Planning and Implementation Regional Groups) agreed to establish PBN task forces.

An important building block for PBN implementation is the flight procedure design criteria. These have now been aligned with the PBN concept. To assist States in training for the new criteria, ICAO organized a procedure design course that, in cooperation with the Cooperative Development of Operational Safety and Continuing Airworthiness Programme (COSCAP)-North Asia and the École Nationale de l'Aviation Civile (ENAC) of France, was held in Beijing, China with two more sessions scheduled in Asia for 2008.

## **Required Communication Performance (RCP)**

The initial, high-level provisions necessary to support the introduction of required communication performance (RCP), an important supporting element of PBN,

were incorporated into Annexes 6 and 11. The culmination of ten years' work, the introduction of these RCP provisions, as well as the associated guidance material, *Manual on Required Communication Performance (RCP)* (Doc 9869) (in preparation), will support the efforts of States in transitioning to performance-based operations, a critical aspect of evolving to a safer and more efficient global ATM environment in line with the ATM operational concept.

### **Aeronautical information**

The shift to a real-time paperless aeronautical information environment also supports PBN. In 2007, the Aerodrome Terrain and Obstacle Chart – ICAO (Electronic) was introduced by Amendment 54 to Annex 4 – *Aeronautical Charts*. The new chart with enhanced electronic functionality provides a single, comprehensive electronic terrain and obstacle chart, resolves identified problems of overlapping and incomplete information and will generate safety benefits and improve efficiency and implementation, particularly with regard to the provision of information to enable operators to comply with the operating limitations specified in Annex 6 – *Operation of Aircraft*.

### **Data Link Applications**

Comprehensive amendments to the Annexes and the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) on a wide variety of ATS data link applications, including automatic dependent surveillance-broadcast (ADS-B), ADS Contract (ADS-C), air traffic service (ATS) interfacility data communications (AIDC) and controller-pilot data link communications (CPDLC), were introduced in 2007. These will facilitate implementation of the available data link technologies. Safety and efficiency will also be enhanced by the inclusion of provisions that support using ADS-B functionality in a similar manner to traditional radar technology. These include a 9.3 km (5 NM) separation minimum based on ADS-B and supporting documentation in the form of Circular 311, *Assessment of ADS-B to Support Air Traffic Services and Guidelines for Implementation* (in preparation).

In support of ADS-B, as well as traffic information service-broadcast (TIS-B), universal access transceiver (UAT) and a new set of 1 090 MHz extended squitter messages were introduced in Annex 10 that provide a better indication of the accuracy and integrity of aircraft position information contained in broadcast reports. The introduction of such datalink-based surveillance systems will provide an alternative for radars and will also facilitate the provision of air traffic surveillance over wider areas.

### **Technology and infrastructure**

ICAO's work on technology and infrastructure development in support of a performance-based air navigation system covers a wide variety of topics



involving diverse technologies. One significant area of progress was in the development of provisions allowing for the use of the public Internet for the exchange of non-time critical meteorology (MET) and aeronautical information service (AIS) information. The Internet is becoming a widely- and economically-available means of communication and it presents an efficient and cost-effective approach to aeronautical and meteorological information exchange.

### **Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS) SARPs**

The incorporation of the Internet Protocol Suite (IPS) as an element of the aeronautical communications infrastructure will increase the flexibility of communication-related aviation applications as well as reduce their implementation costs. On this front, ICAO has begun the development and examination of ATN/IPS SARPs.

### **Radio frequency spectrum**

The radio frequency spectrum is a finite resource that continually faces encroachment by non-aeronautical services. At the International Telecommunication Union (ITU) World Radiocommunication Conference (2007) (WRC-07), positive results were achieved that fully satisfied the ICAO position with regard to the protection of aeronautical safety services. The two essential elements contributing to this successful outcome were the timely development and coordination of the ICAO position with all ICAO Contracting States in preparation for WRC-07 and the coordination and promotion of the ICAO position with individuals from aviation administrations during the conference.

Regulatory provisions to facilitate the use of the off-set carrier (climax) system on 8.33 kHz voice channels in the very high frequency (VHF) band (117.975-137 MHz) were introduced representing a frequency-efficient technique for using VHF frequencies over large geographical areas.

### **Annex 10**

Annex 10 — *Aeronautical Telecommunications* is a multi-volume document of highly technical provisions. To make the Annex more user-friendly, ICAO's Contracting States, through Assembly Resolution A36-13: *Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation*, directed ICAO to place supporting technical specifications in separate documents to the extent possible. To this end, in 2007 over 400 pages of detailed provisions were relocated from Annex 10 to manuals. An added benefit of this is a better concentration on performance requirements in the Annex.

### Operation of New Larger Aeroplanes at Existing Aerodromes

The first commercial flight of the A380 took place on 25 October 2007. States have taken action to modify their airport facilities, as necessary, in order to accommodate the A380, based on the code letter F specifications of Annex 14, Volume I. Additional guidance has been provided through Circular 305, *Operation of New Larger Aeroplanes at Existing Aerodromes*, on conducting aeronautical studies and developing suitable operational procedures, alternative measures and operating restrictions at existing aerodromes which may not currently meet the relevant code letter F specifications.

### Liberalization and policies

To facilitate and assist States in the liberalization of international air transport regulation, the Secretariat undertook several activities during the year, including:

- revising and updating Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587);
- updating the database of the *World's Air Services Agreements* (WASA);
- updating ICAO databases on States' policies and practices on air carrier ownership and control, on case studies of States' liberalization experiences, and on consumer interest; and
- participating in meetings of the World Trade Organization (WTO) relating to the review of the Air Transport Annex to the General Agreement of Trade in Services (GATS), and providing support and input to the WTO Secretariat in preparation for the review.

ICAO's contribution to the improvement of efficiency in the provision and management of airports and air navigation services included:

- development of guidance material on economic and managerial aspects related to performance of the air navigation system, which was presented at the Worldwide Symposium on the Performance of the Air Navigation System organized by ICAO in March;
- development and delivery of training courses, in cooperation with Airports Council International (ACI), on the establishment of airport user charges; and
- completion of a study on the economic situation of airports and air navigation services based on the year 2005 results.

A major task that was initiated during 2007 was the planning and preparation for the convening of a worldwide conference on the economics of airports and air navigation services to be held in September 2008. The main outcome from this

conference is expected to further improve the efficiency and cost-effectiveness in the provision and operation of airports and air navigation services entities based on a review and update of ICAO's policies on charges and associated economic guidance material taking into consideration the commercialization and privatization of these entities.

### **Regional initiatives**

Metric reduced vertical separation minimum (RVSM) throughout the airspace of China was implemented on 21 November 2007.

Long-range international air traffic flow management procedures were implemented across the Bay of Bengal and South Asia to manage the night-time peak traffic period through Kabul flight information region (FIR) (Afghanistan).

Discussions were facilitated between China, Mongolia, the Russian Federation and IATA resulting in increased flexibility for access to China's entry/exit points for Polar route systems and inclusion of non-scheduled flights.

An operational trial of automatic dependent surveillance/controller-pilot data link communications (ADS/CPDLC) in the South China Sea area commenced.

The ICAO Five Letter Name Codes and Route Designators (ICARD) database was adopted for regional application.

States in the Asia/Pacific Region were encouraged to implement requirements for automatic dependent surveillance-broadcast (ADS-B) out avionics equipage for aircraft operating in their airspace providing ADS-B services with a target date of 2010.

A MID Region strategy for the implementation of projects on the basis of Global Plan Initiatives (GPIs) was developed.

A number of seminars/workshops on introduction to performance-based navigation (PBN) were conducted for all the regions.

States were encouraged to commit to implementation of the Middle East very small aperture terminal (MIDVSAT) network for ground/ground communications. A Memorandum of Understanding for the MIDVSAT network was prepared.

A strategy for the global navigation satellite system (GNSS) implementation in the MID Region with emphasis on PBN was developed.

Two additional Radio Navigation and Required Navigation Performance (RNAV/RNP 10) routes (UM214 and UM215) from South Africa to North Africa, linking Palermo and Naples in Europe were implemented.

Assistance and guidance were provided to selected States to improve the regular exchange of operational meteorological (OPMET) information through AFI MET Bulletin Exchange (AMBEX) Scheme and satellite distribution system for information relating to air navigation (SADIS) with a view to improving OPMET availability.

Services and coordinated activities on the Establishment of a Centralized AFI Region AIS Database (AFI-CAD) were provided.

Assistance was provided to Eastern Caribbean States/Territories with the initial implementation phase of Air Traffic Flow Management (ATFM).

ICAO support and guidance were provided with RNP 10 implementation and redesign of air traffic services (ATS) routes in the West Atlantic Route System (WATRS) airspace with a scheduled implementation date of 5 June 2008.

MEVA II VSAT network performance reviews were conducted with all MEVA II Member States; required ground-ground communication in the Caribbean Region has improved as a result.

States in the South Atlantic area were assisted in the implementation of phase one of Atlantic Random Routing Area (AORRA).

An enhanced web-based aeronautical frequency coordination tool was implemented in the EUR Region with the aim of fostering the efficient aeronautical frequency spectrum utilization.

A data link harmonization strategy was developed by the joint European Air Navigation Planning Group (EANPG) and North Atlantic Systems Planning Group (NAT SPG) managed Data Link Steering Group (DLSG). The strategy is aimed at arresting divergence in data link implementation across regions and in developing a path to convergence.

An ATS Message Handling Management Centre in Europe was established with the responsibilities of supporting the planning, implementation, and daily operational management of the common regional aeronautical fixed service (AFS) network that encompasses aeronautical fixed telecommunication network (AFTN), the partly common ICAO data interchange network (CIDIN) and the newly deployed ATS message handling system (AMHS) networks.

Assistance and support were provided for the implementation above FL195 of 8.3 kHz-reduced very high frequency (VHF) communication channel spacing. The implementation plan and business case is under development for the deployment below FL195 (reduced channel spacing is seen as the only solution capable of mitigating the aeronautical VHF COM band congestion until around 2020 in the EUR Region).

In preparing for the International Telecommunication Union (ITU) World Radiocommunication Conference 2007 (WRC-2007), the ICAO position was promoted through appropriate participation at all the regional telecommunication group meetings.

Assistance and support were provided for the implementation of the Phase IV CPDLC to reduce the workload and decrease the demand for high frequency (HF) communications in the NAT Region.

Assistance and support were provided for Mode S enhanced surveillance implementation with mandatory equipment carriage in specific flight information regions of the core EUR Region.

All regions have developed a plan for transition to an optimized and cost-effective scheme for exchange of OPMET data.

The input for the MET part of the single European sky ATM research (SESAR) operational concept was provided to ensure the integration of the MET services in accordance with the ICAO Global ATM Operational Concept.

#### **Technical cooperation projects and activities**

There were 57 national and 6 regional technical cooperation projects dealing with the efficiency of air transport operations.

The areas where advice was provided by the 157 international experts recruited included global navigation satellite systems; radars and navigation aids; communications; aeronautical meteorology; airport planning, development and operation; search and rescue; privatization of airports and air navigation systems.

Fellowship training of 68 nationals was carried out in aeronautical information services, aeronautical meteorological services, air traffic control, search and rescue, aeronautical communications and operations, nav aids maintenance and airport engineering and maintenance. In-country group training through seminars was given in some of these areas.

Technical training related to the planning, development or modernization of airports and air navigation facilities was carried out within the procurement component of projects. The equipment and services purchased were aerodrome ground support equipment such as baggage handling systems, passenger boarding bridges, refuelling trucks, search and rescue equipment, flight information systems, navigation aids, communications systems, radar antennas, information technology systems and software. Related training, as well as maintenance, factory and on-the-job training, was given to 209 nationals.

Regional projects aimed at the modernization of air navigation and communications systems, including the transition to CNS/ATM systems and the management of aeronautical communications systems, were implemented in the



Caribbean and South American Regions. These projects were effective in promoting inter-regional cooperation 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 and air traffic management fields.

A regional project, aimed at the improvement of the quality of search and rescue (SAR) services in 54 participating States in the Africa-Indian Ocean (AFI) Region, offered technical support and training on the basis of a comprehensive evaluation of the SAR systems.

When accidents do occur, an effective Search and Rescue (SAR) programme is critical for locating and assisting survivors. A SAR multinational agreement model for the Caribbean Region was developed and five SAR agreements were developed and concluded in the Africa Region.

# CONTINUITY



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## **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.

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# CONTINUITY

Prevention is basic to ICAO's efforts to manage situations or events that can disrupt international air transport operations. One major area of activity involves mitigating the risk from the spread of communicable diseases by air travellers. During 2007, ICAO expanded its role of assisting States in this area. The Air Navigation Bureau and the Technical Co-operation Bureau worked closely with the Bangkok Regional Office to establish a Regional Aviation Medicine Team and a Steering Committee in the Asia/Pacific Region for the CAPSCA project – Cooperative Arrangement for Preventing the Spread of Communicable Disease through Air Travel. ICAO is cooperating with the World Health Organization (WHO), Airports Council International (ACI) and the International Air Transport Association (IATA) to ensure that a comprehensive approach is taken.

With the objective of implementing the concept in other parts of the world, ICAO introduced the CAPSCA model to Africa, and two workshops to sensitize local officials are planned for 2008. A substantial grant from the United Nations Central Fund for Influenza Action, administered by the United Nations Development Programme (UNDP), has been of considerable support to the development of CAPSCA.

The need for preventive action was formalized with Amendment 20 to Annex 9 – *Facilitation*, which became applicable on 15 July 2007. It requires each Contracting State to establish a national aviation plan in preparation for an outbreak of a communicable disease posing a public health risk or public health emergency of international concern. Guidance in developing a national aviation plan is available on the ICAO website on the Aviation Medicine page (<http://www.icao.int/icao/en/med>).

## Regional initiatives

The National Air Traffic Management Contingency Plan for Indonesia, which will be promulgated as the model for the Asia/Pacific Region, was finalized.

Through all of its Regional Offices, ICAO provided assistance to a number of States in developing Air Traffic Services (ATS) contingency plans.

A Caribbean and North American Regional Catalogue of ATS Contingency Plans to mitigate the effect of natural or human events that may disrupt air navigation systems was developed.

A search and rescue (SAR) multinational agreement model for the CAR Region was developed. Five SAR agreements were developed and concluded in the AFI Region.

**Technical cooperation projects and initiatives**

The continuity of air operations was supported by the implementation of 1 regional and 27 national projects.

The 61 international experts recruited provided assistance to civil aviation administrations in the prevention of the spread of communicable diseases, language training, training needs and technology, including the development or implementation of TRAINAIR projects.

Fellowship training of 97 national personnel concentrated on general civil aviation management.

On a regional basis, the Cooperative Arrangements for Preventing the Spread of Communicable Diseases through Air Travel (CAPSCA), 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 Region with the participation of seven countries.

# **RULE OF LAW**



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## **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.

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# RULE OF LAW

## International air law

In 2007, the Organization was particularly active in the development of international law under the following six items of the General Work Programme of the Legal Committee:

- 1) *Compensation for damage caused by aircraft to third parties arising from acts of unlawful interference or from general risks.* The Council Special Group on this subject completed its work on the draft Convention on Compensation for Damage Caused by Aircraft to Third Parties in case of Unlawful Interference, and the draft Convention on Compensation for Damage Caused by Aircraft to Third Parties, i.e. "The General Risks Convention". The Council subsequently decided to convene in Montreal, from 21 April to 2 May 2008, the 33rd Session of the Legal Committee to further develop the texts of the draft Conventions.
- 2) *Acts or offences of concern to the international aviation community and not covered by existing air law instruments.* A special Sub-Committee of the Legal Committee was established to prepare one or more draft instruments addressing the new and emerging threats to civil aviation. At its first meeting in July, the Sub-Committee developed preliminary drafts of new instruments. The Council decided in November to convene the second meeting of the Sub-Committee in February 2008 to consider the issue of the unlawful transport by air of fugitives and particularly dangerous goods.
- 3) *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.* The term "the regional multinational organisms" was added to this item by the Assembly at its 36th Session. It is expected that the Members of the European Civil Aviation Conference (ECAC) will develop a model of a regional legal framework, which could then be distributed through ICAO to its Member States.
- 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. At its second meeting, the Commission of Experts of the Supervisory Authority of the International Registry (CESAIR) reviewed a number of



changes proposed by the Registrar to the Regulations and Procedures for the International Registry and recommended their approval by the Council.

- 5) *Review of the question of the ratification of international air law instruments.* The Secretariat continued to take administrative action necessary to encourage ratification, such as the development and dissemination of ratification packages, promotion of ratification at various fora, and continued emphasis on ratification matters by the President of the Council and the Secretary General during their visits to States.
- 6) *United Nations Convention on the Law of the Sea – Implications, if any, for the application of the Chicago Convention, its Annexes and other international air law instruments.* The Secretariat pursued its monitoring activities in this area.

#### **Ratification of international air law instruments**

A chronological record of States that ratified or adhered to multilateral air law instruments during 2007 can be found on the ICAO website as part of the Legal Bureau's Treaty Collection, where status lists of international air law instruments are continually updated.

Montenegro deposited, on 12 February with the Government of the United States, its notification of adherence to the *Convention on International Civil Aviation*. The adherence took effect on 14 March, bringing the number of ICAO Member States to 190.

Georgia acceded to the *Convention on the Privileges and Immunities of the Specialized Agencies* (1947) and undertook to apply it to ICAO on 18 July. This brought the total number of States that have undertaken to apply the 1947 Convention to ICAO to 104.

As part of its outreach activities, the Legal Bureau held a seminar in Lima for States to which the South American and North American, Central American and Caribbean Offices are accredited. The intention was primarily to inform and update government officials on a variety of air law subjects undergoing rapid evolution, in particular those relating to aviation security and the "Compensation for Damage Caused by Aircraft to Third Parties Arising from Acts of Unlawful Interference or from General Risks". The seminar also covered the ratification and implementation of international air law instruments, as well as other topics of interest, such as the Montreal Convention of 1999 and international interests in mobile equipment. Administrative packages were made available on the secure ICAO-NET website to further help States in the ratification of civil aviation treaties.

**Database of agreements**

The database of aeronautical agreements and arrangements (DAGMAR), available on the ICAO website, features essential information on registered agreements.

**Settlement of disputes**

In a number of instances, the Legal 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.

**Model legislation**

The Legal Bureau participated in the ICAO/Aviation Pilots' Union Association of Mexico (ASPA) Regional Seminar – The Protection of Safety Information Sources as an Essential Building Block of Safety Management Systems (SMS) – in Mexico City. The purpose was to present Attachment E (Legal Guidance for the Protection of Information from Safety Data Collection and Processing Systems) to Annex 13 to the Convention on International Civil Aviation – *Aircraft Accident and Incident Investigation*. The Legal Bureau supervised the development of the guidance material.

**Technical cooperation projects and initiatives**

Six technical cooperation projects were implemented to support activities linked to international air law.

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

One national received specialized training in the field of air and space law.

**SUPPORTING  
IMPLEMENTATION  
STRATEGIES**



# SUPPORTING IMPLEMENTATION STRATEGIES

The Business Plan of ICAO will prove effective to the extent that it complies with the time-tested requirement of having the right people, with the right skills, to do the right thing, at the right place, at the right time. Staff must also be given the tools to carry out their tasks within an organizational structure that is itself supported by systems and procedures that take full advantage of information technologies. Communicating effectively with aviation stakeholders rounds out the main supporting strategies for a systematic implementation of the Organization's programmes and activities.

## **Language and publications**

An Assembly year invariably generates additional demand for translation and related language services and 2007 was no exception. There was a sharp increase linked to preparatory documentation for the Assembly as well as to various meetings. Translation output was 21.7% higher than in 2006; in-house production increased by 24.8% in spite of reduced human resources, while external translation increased by 11%. Interpretation was provided to 329 meeting sessions.

While there was a 14.7% decrease in the production of saleable publications, there was a 30% increase in the number of non-saleable amendments to publications, coupled with sustained progress in electronic publishing and availability of documentation online.

The output from the Printing Section increased 9% from 2006, due to the number of Annexes printed and papers required for the Assembly. The purchase of a four-color press made it possible to print the ICAO Journal and other ICAO high-end magazines in-house.

## **Human resources**

Throughout the year, the Human Resources Branch focussed its efforts on establishing the foundation for programmes and processes aimed at the ongoing development of staff, within the context of anticipated reduced financial resources and the Human Resources Management Framework.

A new performance management system called Performance and Competency Enhancement (PACE) was launched in January. This managerial tool involves the identification for each staff member of key tasks and expected outputs or results linked to the Strategic Objectives and Supporting Implementation Strategies, making it possible for both staff and supervisors to concentrate on achieving the results-based outcomes outlined in the Business Plan. Another feature of PACE is that it elicits learning and development needs of staff, which are then rolled into the organization-wide training plan. In establishing the training plan, particular emphasis will be placed on managerial training. The intention is for employees to acquire the skills necessary to perform their tasks more effectively. This aspect of PACE can be highly motivating and can contribute to better employee morale and productivity.

Another welcome innovation was the addition to staff regulations of a provision for paternity leave. This more closely aligns the family-friendly policies of ICAO with those of the United Nations.

With regard to the filling of posts, delays for the Professional category were significantly shortened. This had a positive impact on the overall productivity of various units within the Organization and their ability to meet their respective objectives under the work programme. Cooperation between the Human Resources Branch and the Bureaus or Offices concerned was the key factor in achieving this result.

Meeting diversity goals in terms of gender was enhanced with the implementation of a formal ICAO Policy Framework on Gender Equality and Gender Mainstreaming. At year end, the overall level of female representation in Professional posts in the Secretariat stood at 30.88%, with a historical increase in the representation of women in senior management with appointments to Director positions for the Air Navigation Bureau, the Air Transport Bureau and the Bureau of Administration and Services. Whereas there were no women Directors on the Senior Management Group in 2006, there are now three out of five, a situation more in line with the United Nations goal of gender parity. As for equitable geographical representation (EGR), the status remained practically unchanged, with 75 States represented in the Secretariat.

At year end, there were 698 established posts within the Organization funded by the Regular Programme (RP) and the Administrative and Operational Services Costs Fund (AOSC), 294 in the Professional and higher categories and 404 in the General Service category.

### **Information technology**

A key to the success of the Business Plan is the expanded use of information technology throughout the Organization. The new e-Strategy fully promotes the use of digital and interactive technologies for a more effective delivery of information and documentation services and more efficient internal and external communications. It is an integral part of the info-structure concept of the ICAO Information and Communication Technology Master Plan.



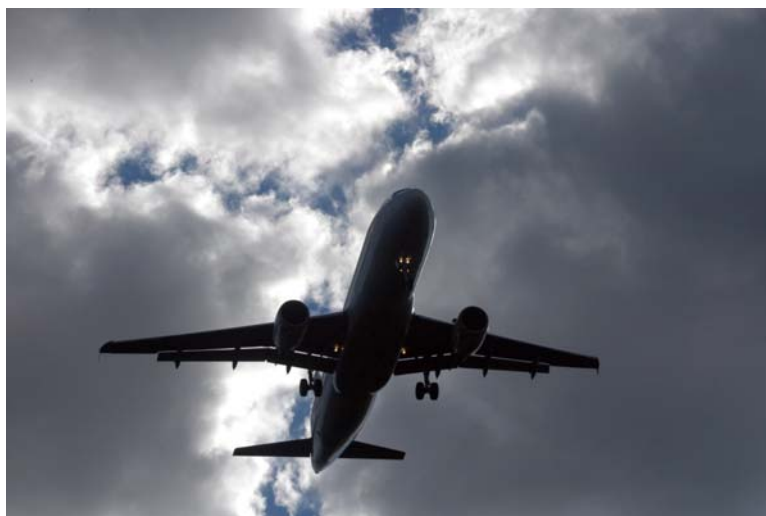
The underlining objective of the e-Strategy is to make most of ICAO information and documentation services available electronically by 2010, through five primary activities:

- a progressive movement to a new level of efficiency and effectiveness in the dissemination of information, in the form of an ICAO-NET, which becomes a comprehensive, one-stop, online repository of all publications of the Organization, eventually eliminating the need for paper distribution;
- improvement in communication with the Contracting States and international organizations through the exclusive use of e-mail and web technologies, under a system that ensures total reliability and security;
- increase in revenue generation through current activities and the introduction of new saleable services;
- documentation offered for sale on the web (e-Commerce), and modernization of supporting activities. The guiding principles for the revenue-generating activities will be profitability, sustainability and efficiency;
- modernization of work processes and methods through improved use of modern information and telecommunication technology, particularly in the areas of workflow streamlining, electronic availability of documentation for meetings, telecommuting, teleconferencing and remote translation.

Throughout 2007, major advances were made in each of these categories, resulting in enhanced communications with Contracting States and within the Organization, more efficient working methods, greater integration of activities between Headquarters and Regional Offices as well as within HQ, and reduced costs. Of particular interest were enhanced environmental practices due to the considerable reduction in the number of printed documents as a result of greater reliance on electronic distribution.

Major technical and administrative improvements were made or refined in 2007 based on the greater use of information technology, including system-wide initiatives that will accelerate the full administrative and operational integration of Regional Offices with Headquarters. These include:

- IRIS – Integrated Resources Information System – a new system designed to automate accounting and financial reporting and provide more timely and comprehensive financial information to management. IRIS will be expanded to include Human Resource management, sales of publications and travel.

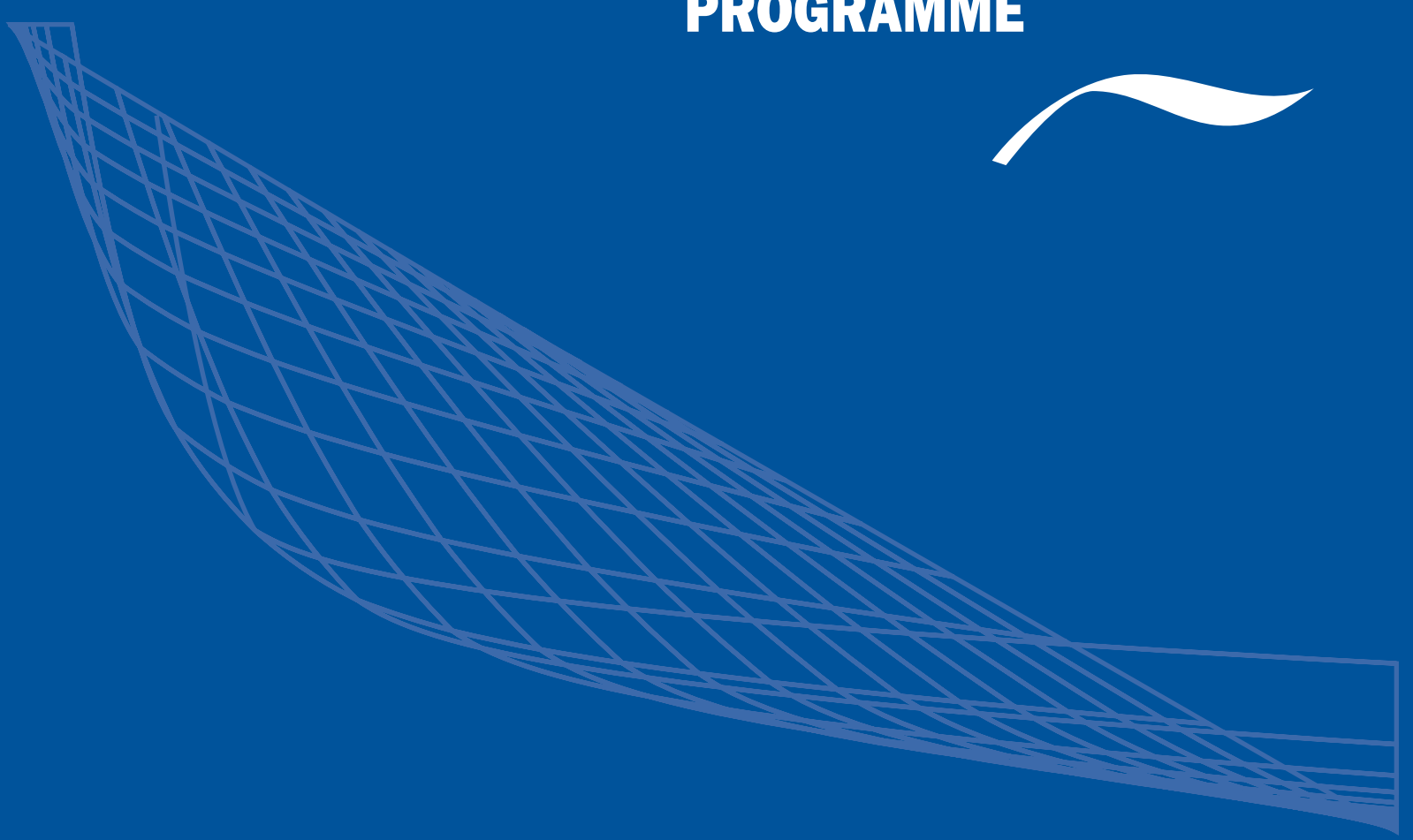


- IKSAN – ICAO Knowledge Shared Network – an integrated management system to provide common situational awareness for all projects and to support the Organization-wide implementation of the Business Plan.
- IPSAS – International Public Service Sector Accounting Standards – to provide a better overall picture of the financial situation of the Organization leading to better decision-making. ICAO is among one of the early adopters of IPSAS within the UN system.
- EDEN – Electronic Documents and Enquiry Network – automation of the document production process; with online tracking of documents to facilitate the work of the language sections.

### Communications

In late 2006, ICAO approved a public information strategy in line with the Business Plan. The Internet and electronic publications will become the preferred medium of communications with the outside world, supported by streamlined written communications focusing increasingly on the work of ICAO and its constituent parts, including the Regional Offices. A new *ICAO Journal* launched in the summer remains the flagship publication of the Organization, with the *MRTD Report* and *Regional Report* (planned for 2008) contributing to a better understanding of the vital leadership role played by ICAO in all areas of international civil aviation. The new public information strategy supports the Organization's dual goal of reducing expenditures and increasing revenues.

# **TECHNICAL COOPERATION PROGRAMME**





## TECHNICAL COOPERATION PROGRAMME

Supporting the implementation of ICAO regulations, procedures and policies is fundamental to the effectiveness of the Organization as the central institution for global governance in civil aviation. One of the key elements in this pursuit is the Technical Co-operation Bureau (TCB).

TCB provides a broad spectrum of services, including assistance in the review of 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 2007, the implementation of the Technical Cooperation Programme reached \$174.12 million. Under various Trust Fund arrangements, TCB executed 327 projects in 73 countries, of which 52 were operationally completed during that year (see Appendix 2).\*

Approximately 97.2% 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 1.8%.

Over the 2005 to 2007 period, the Programme increased 57%, primarily due to growing demand from ICAO Contracting States for assistance in complying with government requirements in various civil aviation areas. ICAO pursued its efforts to reduce the gap in assistance between the various geographical regions to achieve a more balanced programme.

In keeping with the concept of the Business Plan, support is closely aligned with the Strategic Objectives and covers a wide range of projects: civil aviation master planning; human resource development; administration and legislation; communication and navigation; aviation security; airworthiness and flight operations; safety management systems; airport planning, construction and management; air traffic services; search and rescue; and introduction of the ICAO TRAINAIR methodology.

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\* The Appendices to this report are available exclusively at [www.icao.int/annualreports](http://www.icao.int/annualreports).

**The Technical Cooperation Programme by region  
(in millions of dollars)**

Region	2005	2006	2007	Increase (+)/ decrease (-) 2007 vs 2005 (%)
Africa	9.02	9.59	14.58	(+5.56)
Americas	120.80	141.76	182.52	(+61.72)
Asia and the Pacific	5.45	5.20	6.12	(+0.67)
Europe and the Middle East	10.72	13.32	26.39	(+15.67)
<b>Total Programme</b>	<b>145.99</b>	<b>169.87</b>	<b>229.61</b>	<b>(+83.62)</b>

**Implementation volume by Strategic Objective**

Strategic Objective	The Americas	%	Africa	%	Asia and Pacific	%	Europe and Middle East	%	Total Programme
A (Safety)	31 890 170	21.0	4 802 973	51.4	1 827 771	65.6	3 666 460	36.2	42 187 374
B (Security)	1 518 580	1.0	112 132	1.2	314 845	11.3	324 107	3.2	2 269 664
C (Environment)	1 518 580	1.0	0	0.0	0	0.0	0	0.0	1 518 580
D (Efficiency)	92 633 350	61.0	3 055 588	32.7	401 218	14.4	3 980 438	39.3	100 070 593
E (Continuity)	22 778 692	15.0	981 152	10.5	117 022	4.2	2 096 567	20.7	25 973 432
F (Rule of Law)	1 518 580	1.0	392 461	4.2	125 381	4.5	60 770	0.6	2 097 192
<b>TOTAL</b>	<b>151 857 952</b>	<b>100.0</b>	<b>9 344 305</b>	<b>100.0</b>	<b>2 786 236</b>	<b>100.0</b>	<b>10 128 342</b>	<b>100.0</b>	<b>174 116 835</b>

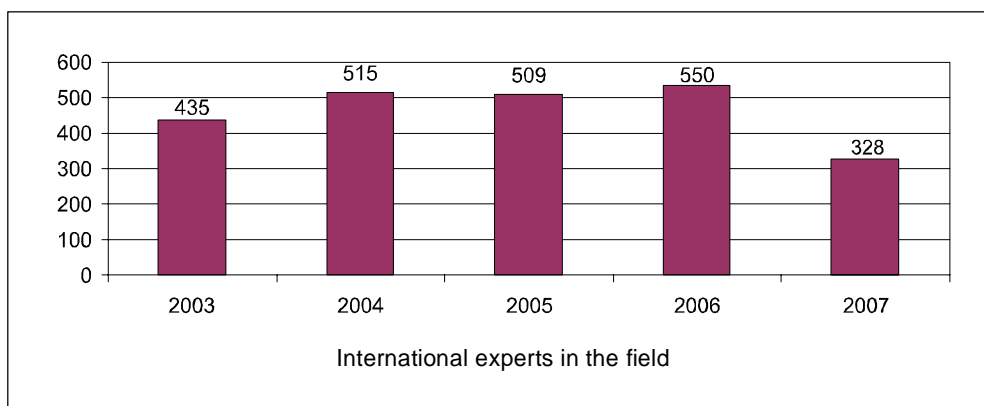
The three main components of projects implemented by ICAO are experts recruited to provide technical cooperation at the field level, fellowships awarded to personnel of civil aviation departments selected by the government, and equipment and services procured for projects.

#### Recruitment of experts

The total number of international field experts and consultants recruited in 2007 was 328. There were also 1 672 national project personnel for a total of 2 096. 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.



These experts contributed to the transfer of knowledge to national counterparts, the implementation of ICAO SARPs, the development of adequate civil aviation organizational structures and the rectification of safety and security deficiencies.



### Civil aviation training

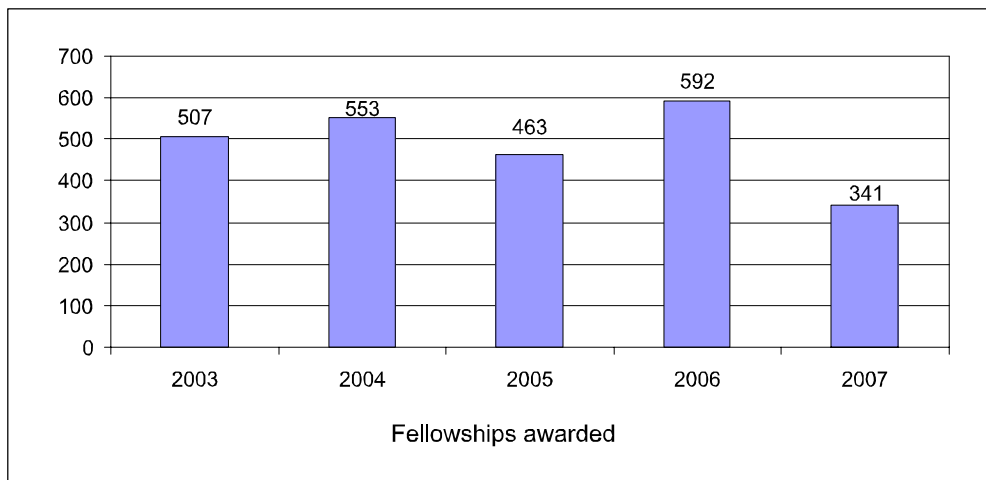
During the year, 341 fellowships were awarded for a total duration of 200 work/months. A total of 48 awards were issued under the ICAO-Singapore Developing Country Training Programme in the fields of Civil Aviation Management, Air Traffic Control, Search and Rescue, Civil Aviation Administration and Legislation, Airport Engineering and Maintenance. A total of 27 countries benefited from the Programme.

A Memorandum of Understanding was signed in 2007 with China, India and the Republic of Korea for the provision of training to be funded by these countries in cooperation with ICAO. A total of 53 fellowships were awarded by ICAO for training at the Korea Civil Aviation Training Centre in the fields of Global Satellite Navigation Systems (GNSS), Doppler VOR and radar. The Assad Kotaite Postdoctoral and Graduate Fellowship Fund was established to promote the training of nationals of least-developed countries.

In addition to the fellowships awarded in various fields, the in-country training programmes offered by instructors recruited through TCB to over 1 300 technical, managerial and operational personnel of civil aviation administrations demonstrate a growing awareness by States of the importance of civil aviation training.

Compensating for the decrease in 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 2007, 302 national staff benefited from training in new technologies as well as in the operation of equipment purchased through ICAO projects.

Considering the importance of the human element as a key factor in the safety of civil aviation operations, the 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 TCB 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 personnel and inspectors.



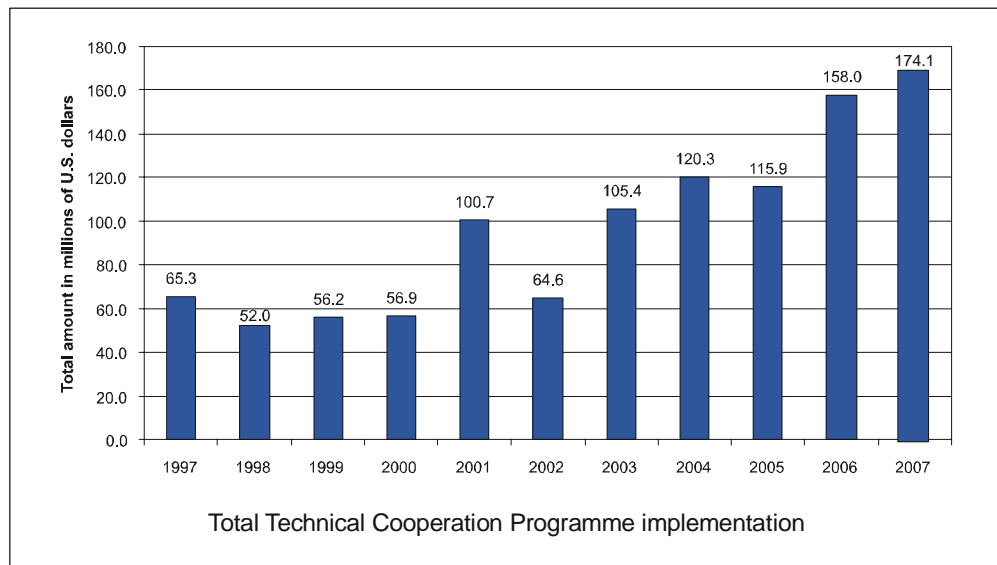
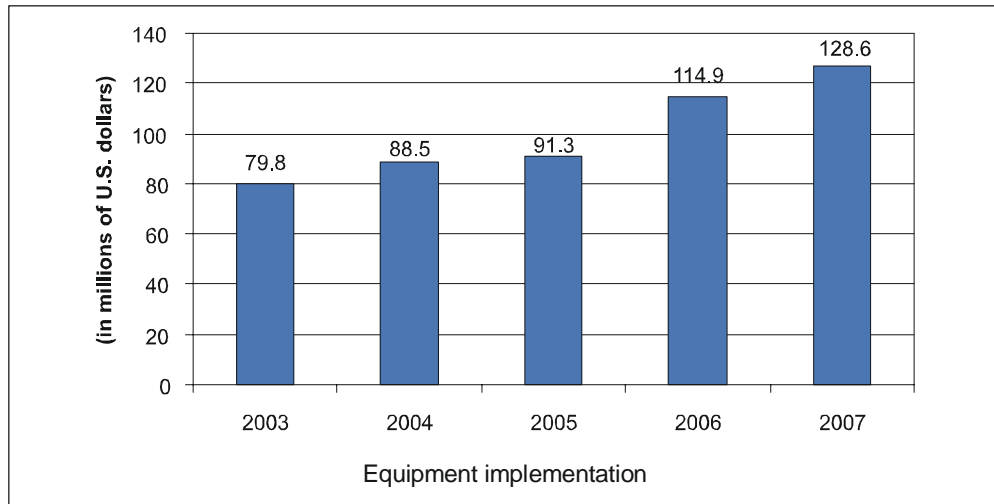
### Equipment and subcontracts

During 2007, 657 purchase orders and subcontracts were issued for the TCB Programme. The total field procurement implementation was \$128 638 816. 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 civil aviation infrastructures of States 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 238 purchase orders and subcontracts for \$11 300 316 were issued by TCB covering procurements of equipment and services for the ICAO Regular Programme and Technical Co-operation Bureau (TCB) administrative needs. The most significant was the purchase of the Integrated Resource Information System (IRIS) for \$6.1 million. Other major procurements included a four-colour

printing press (\$700 000), implementation of the Document Production System (DPS) (\$340 000), Conference Registration System (\$250 000), Information Technology (IT) infrastructure upgrade (\$238 000) and share-point and single sign-on (\$220 000).

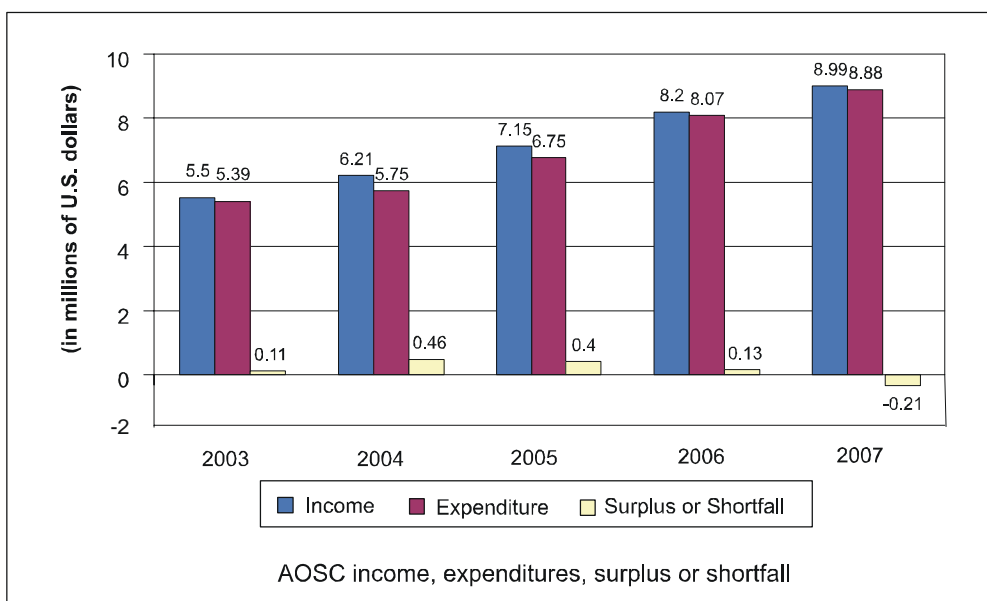


**The Administrative and Operational Services Cost (AOSC) budget**

ICAO does not provide funding for its Technical Co-operation Programme; it is funded by extra-budgetary resources provided by donors. 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 Costs (AOSC) Fund.

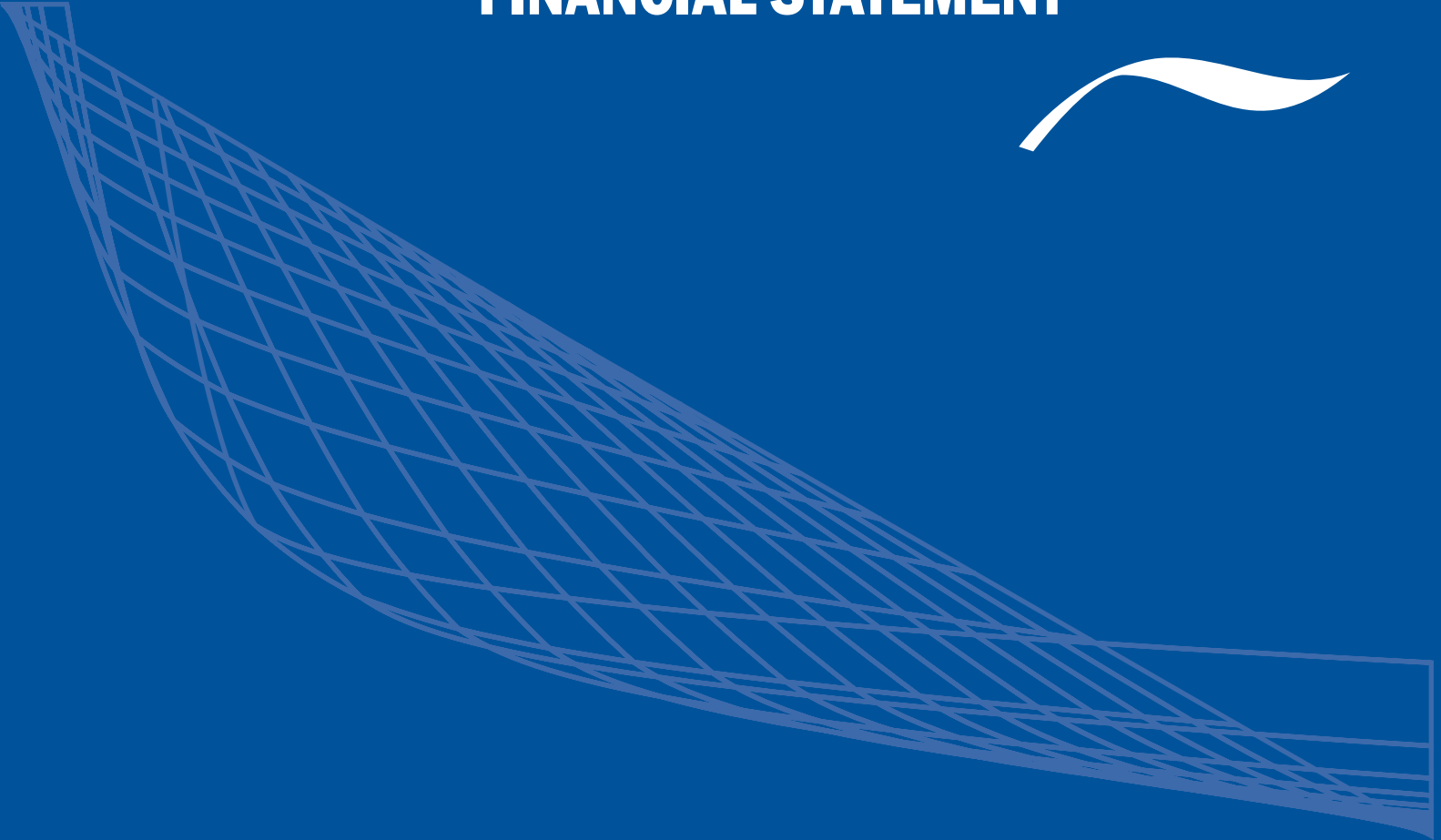
The AOSC Budget estimates approved by the Assembly are indicative only, because the Programme cannot be determined with precision until governments and donors have decided on the amounts to be allocated to civil aviation projects. The Council monitors the development of the Technical Cooperation Programme and the income and expenditures of the AOSC budget. It then reviews, notes or approves, as required by the ICAO Financial Regulations, the AOSC estimates for the year.



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 2007 is estimated at \$5.7 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 \$4.7 million at 31 December 2007.

Detailed information on large-scale projects over \$500 000 can be found on the Annual Report website.

**FINANCIAL STATEMENT**



# FINANCIAL STATEMENT

The budget appropriations for 2005-2006-2007 and the financing of the appropriations, as approved by the Assembly, are shown in Table 1:

**Table 1. Appropriations for 2005, 2006 and 2007**

	2005 U.S.\$	2006 U.S.\$	2007 U.S.\$
Appropriations	64 669 000	65 820 000	66 511 000
To be financed by:			
Miscellaneous income	5 162 000	5 413 000	5 723 000
Assessments	58 507 000	60 407 000	60 788 000
Transfer from the Incentive Scheme for Long-outstanding Arrears Account	1 000 000		

As shown in Table 2, the final appropriation for 2007 was adjusted to \$69 826 000, as a result of:

- i) the carry-over of \$9 965 000 from 2006 appropriations to 2007 in accordance with Financial Regulation 5.6;
- ii) the transfer of \$2 551 000 between Major Programmes in accordance with Financial Regulation 5.10 and C-182/13;
- iii) the net decrease in appropriation of \$570 000 in accordance with C-176/8, C-176/14 and C-181/3; and
- iv) the carry-over of \$6 080 000 from 2007 appropriations to 2008 in accordance with Financial Regulation 5.11 and C-182/13.

The actual expenditure for 2007 against the appropriation amounted to \$69 678 000.

Assessments for 2007 on Contracting States amounted to \$60 851 844 including assessments of \$63 844 from two new Contracting States. Assessments for 2007 actually received by the year's end amounted to \$59 431 735, or 97.67% as compared with 84.28% at the end of 2006 and 97.15% at the end of 2005. In addition, \$10 391 274 was received in respect of assessments for previous years.



The total outstanding arrears of assessments as at 31 December 2007 amounted to \$10 011 039 compared with \$10 903 566 as at 31 December 2006.

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 2006.

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 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.

**Table 2. Revised appropriations for 2007**

	Appropriations 2007 Res. A35-22 U.S.\$	Carry-over from prior year U.S.\$	Supplementary (C-176/8, C-176/14 and C-181/3) U.S.\$	Transfers between Major Programmes U.S.\$	Carry-over to following year U.S.\$	Revised appropriations U.S.\$	Actual expenditures U.S.\$
I. General Policy and Direction	1 708 000	322 000		-371 000		1 659 000	1 659 000
II. Air Navigation	9 413 000	1 011 000		-626 000		9 798 000	9 798 000
III. Air Transport	5 485 000	745 000	1 030 000	-1 036 000	-550 000	5 674 000	5 651 000
IV. Legal	1 063 000	488 000		-518 000	-150 000	883 000	865 000
V. Regional and Other Programmes	16 240 000	2 126 000		1 384 000	-2 200 000	17 550 000	17 502 000
VI. Administrative Support	26 029 000	2 088 000		395 000	-1 052 000	27 460 000	27 415 000
VII. Finance, External Relations/Public Information and Programmes Evaluation, Audit and Management Review	3 974 000	1 814 000	-1 600 000	772 000	-1 330 000	3 630 000	3 624 000
VIII. Universal Safety Oversight Audit Programme	2 599 000	1 371 000			-798 000	3 172 000	3 164 000
<b>TOTAL</b>	<b>66 511 000</b>	<b>9 965 000</b>	<b>-570 000</b>	<b>0</b>	<b>-6 080 000</b>	<b>69 826 000</b>	<b>69 678 000</b>

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

As at	2007			2006		
	General Fund U.S.\$	Working Capital Fund U.S.\$	Total U.S.\$	General Fund U.S.\$	Working Capital Fund U.S.\$	Total U.S.\$
1 January	11 999 500	5 996 859	17 996 359	16 616 392	5 992 179	22 608 571
31 March	20 833 052	5 996 859	26 829 911	14 666 712	5 992 179	20 658 891
30 June	16 217 554	5 996 859	22 214 413	12 039 418	5 996 859	18 036 277
30 September	15 648 820	6 001 539	21 650 359	17 291 621	5 996 859	23 288 480
31 December	25 129 185	6 001 539	31 121 734	11 999 500	5 996 859	17 996 359

**Results-based budget (RBB)**

2007 marked the first time that an ICAO budget was prepared according to a results-based budget (RBB) approach. A major feature of the RBB format is that, by focusing on high-level deliverables, it allows the Council and the Assembly to monitor the objectives and outcomes of all ICAO activities. Other advantages include:

- a more transparent representation of the budget, by having resources tied to expected results;
- a better understanding of the Organization's strategy; and
- a more strategic dialogue between the Secretariat and its Governing Body due to the emphasis on achieving results rather than budgetary inputs.

While the new RBB retains the existing organizational structure, it introduces critical distinctions between "Programme", "Programme Support" and "Management and Administration" expenditures. It also takes into account the entire resources of the Organization, thereby including the assessed amounts for the Regular Budget as well as the indicative planning figures for the Technical Cooperation Programme and other extra-budgetary funds.

Overall, the framework for the approved Budget reflects the Council's strategy for 2008-2010, namely to: contain the increase in appropriations vis-à-vis the 2005-2007 Budget; increase the share of resources in support of Strategic Objectives; and reduce the adverse impact of currency fluctuations on the Budget.

**Canadian dollar accounting**

One of the measures taken by the Organization to reduce the adverse impact of currency fluctuations on finances was a shift to a Canadian dollar budget. After consultations with the International Civil Service Commission (ICSC) – the United Nations body that oversees the UN system of common salaries and entitlements – it was determined that Professional staff at Headquarters in Montreal could be paid in Canadian dollars with no impact on their take-home pay. It was further determined that the new Enterprise Resource Planning (ERP) would be able to accommodate a change to Canadian dollar accounting and payroll. With staff members at Headquarters paid in Canadian dollars, the impact of the Canadian – U.S. exchange rate will be reduced.

**Enterprise resource planning**

During 2007, the Integrated Resource Information System (IRIS) project, funded from the Information and Communication Technology (ICT) Fund, implemented the functionality to support Phase 1 operations in the ERP system designed to automate administrative processes. Implementation started in February after the signing of an agreement with the supplier, Agresso Business World, for licences and configuration services.

Phase 1 includes: general ledger, accounts payable, accounts receivable, management of projects and procurement. Two modules originally planned for Phase 1, budgeting and fixed assets, were delayed to Phase 2, which also includes functionality to support human resources, payroll, travel, and publications sales.

While the Canadian currency for budgeting and accounting was adopted for the Regular Budget, the U.S. dollar was retained for the Technical Cooperation Programme. This caused delays in the implementation of the ERP. Additional resources from Agresso and ICAO were necessary because many of the tasks that were initially planned as sequential had to be performed concurrently in order to meet the 8 January 2008 deadline for the system to be put into production; functionality that was not absolutely essential was deferred until the first quarter 2008.

By year-end, implementation and testing of system functionality required for production were substantially completed and training of users had begun.

**International Public Sector Accounting Standards (IPSAS)**

The United Nations (UN) and the UN System's Chief Executive Board (CEB) approved the replacement of the United Nations System Accounting Standards (UNSAS) with the International Public Sector Accounting Standards (IPSAS), for application to accounts and financial statements on or before 1 January 2010. The CEB established a Task Force to ensure consistent interpretation and application of IPSAS.

As a member of the Accounting Policy Group that reviews policy and guidance related to IPSAS implementation, ICAO has actively contributed to the work of the Task Force. Preliminary position and policy papers were issued in 2007 for consideration and for application by ICAO as of 2008. The Council approved the gradual implementation of IPSAS during the next triennium (2008–2010) in order to align ICAO with other UN Organizations. Proposed amendments to the Financial Regulations to reflect the switch from the cash basis and obligation concept to the full accrual basis for accounting and reporting, as required by IPSAS, were approved in 2007.

## APPENDIX 1. TABLES RELATING TO THE WORLD OF AIR TRANSPORT IN 2007

General Note.— The statistical data for 2007 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 Contracting 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.

**Table 1. World total revenue traffic — international and domestic**  
(scheduled services of airlines of ICAO Contracting States, 1998–2007)

Year	Passengers		Passenger-km		Freight tonnes		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %
1998	1 471	1.0	2 628 120	2.1	27	0.4	101 820	-1.0	5 760	-3.8	348 600	1.3
1999	1 562	6.2	2 797 800	6.5	28	6.0	108 660	6.7	5 720	-0.7	370 420	6.3
2000	1 672	7.0	3 037 530	8.6	30	8.2	118 080	8.7	6 050	5.8	403 960	9.1
2001	1 640	-1.9	2 949 550	-2.9	29	-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	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	34	6.7	125 760	4.9	4 530	-0.9	407 670	2.7
2004	1 888	11.6	3 445 300	14.1	37	9.6	139 040	10.6	4 580	1.1	458 910	12.6
2005	2 022	7.1	3 721 690	8.0	38	2.5	142 520	2.5	4 660	1.7	487 860	6.3
2006	2 128	5.2	3 940 600	5.9	40	5.1	149 650	5.0	4 550	-2.4	514 750	5.5
2007	2 260	6.4	4 201 140	6.7	41.6	4.5	158 390	4.7	4 530	0.0	545 070	5.5

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.



**Table 2. World revenue traffic — international**  
(scheduled services of airlines of ICAO Contracting States, 1998–2007)

Year	Passengers		Passenger-km		Freight tonnes		Freight tonne-km performed		Mail tonne-km performed		Total tonne-km performed	
	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %	Millions	Annual increase %
1998	458	4.6	1 512 040	3.0	15.8	0.6	87 050	-0.8	2 480	-0.4	231 440	1.8
1999	493	7.6	1 622 250	7.3	17.3	9.5	93 280	7.2	2 480	0.0	247 610	7.0
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	762	8.1	2 357 990	7.2	23.6	4.4	124 180	4.8	3 030	1.7	345 890	6.3
2007	828	8.8	2 544 540	7.6	25.3	5.9	132 400	5.3	3 230	6.3	369 350	6.1

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

**Table 3. Trends in load factors on scheduled services — international and domestic**  
(scheduled services of airlines of ICAO Contracting States, 1998–2007)

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 %
1998	2 628 120	3 837 730	68	101 820	5 760	348 600	584 570	60
1999	2 797 800	4 050 780	69	108 660	5 720	370 420	614 460	60
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	3 940 600	5 197 250	76	149 650	4 550	514 750	814 240	63
2007	4 201 140	5 484 860	77	158 390	4 530	545 070	863 100	63

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

**Table 4. Regional distribution of scheduled traffic — 2007**

By ICAO statistical region of airline registration	Aircraft kilometres (millions)	Aircraft departures (thousands)	Passengers carried (thousands)	Passenger-kilometres performed (millions)	Passenger load factor (%)	Tonne-kilometres performed		Tonne-kilometres available (millions)	Weight load factor (%)
						Freight (millions)	Total (millions)		
<b>Total (international and domestic) services of airlines of ICAO Contracting States</b>									
Europe	8 760	7 200	624 310	1 158 290	77	40 120	145 960	215 640	68
Percentage of world traffic	25.9	27.2	27.7	27.6		25.3	26.8	25.0	
Africa	870	640	44 650	99 240	67	2 270	11 690	20 610	57
Percentage of world traffic	2.6	2.4	2.0	2.4		1.4	2.1	2.4	
Middle East	1 300	670	82 680	224 630	76	10 770	32 010	53 120	60
Percentage of world traffic	3.8	2.5	3.7	5.3		6.8	5.9	6.2	
Asia and Pacific	7 520	5 170	590 370	1 126 380	75	58 430	161 620	254 630	63
Percentage of world traffic	22.2	19.5	26.2	26.8		36.9	29.7	29.5	
North America	13 570	10 990	794 960	1 419 330	80	41 970	172 940	281 950	61
Percentage of world traffic	40.1	41.5	35.2	33.8		26.5	31.7	32.7	
Latin America and Caribbean	1 810	1 830	120 110	173 260	68	4 830	20 850	37 140	56
Percentage of world traffic	5.4	6.9	5.3	4.1		3.0	3.8	4.3	
<b>Total</b>	<b>33 830</b>	<b>26 500</b>	<b>2 257 080</b>	<b>4 201 130</b>	<b>77</b>	<b>158 390</b>	<b>545 070</b>	<b>863 090</b>	<b>63</b>
<b>International services of airlines of ICAO Contracting States</b>									
Europe	7 230	4 490	435 740	1 022 550	77	39 370	132 970	195 500	68
Percentage of world traffic	42.8	57.1	52.6	40.2		29.7	36.0	34.1	
Africa	690	310	25 830	85 070	66	2 180	10 310	18 450	56
Percentage of world traffic	4.1	3.9	3.1	3.3		1.6	2.8	3.2	
Middle East	1 140	430	59 170	207 180	75	10 670	30 340	50 350	60
Percentage of world traffic	6.8	5.5	7.1	8.1		8.1	8.2	8.8	
Asia and Pacific	3 880	1 160	172 710	694 280	75	52 580	117 970	182 340	65
Percentage of world traffic	23.0	14.7	20.9	27.3		39.7	31.9	31.8	
North America	3 030	1 060	102 440	436 890	81	23 650	64 370	104 780	61
Percentage of world traffic	18.0	13.5	12.4	17.2		17.9	17.4	18.3	
Latin America and Caribbean	910	420	32 050	98 570	70	3 960	13 380	22 500	59
Percentage of world traffic	5.4	5.3	3.9	3.9		3.0	3.6	3.9	
<b>Total</b>	<b>16 880</b>	<b>7 870</b>	<b>827 940</b>	<b>2 544 540</b>	<b>76</b>	<b>132 410</b>	<b>369 340</b>	<b>573 920</b>	<b>64</b>

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.

**Table 5. Estimated international non-scheduled revenue passenger traffic, 1998–2007**

Category	Millions of passenger-kilometres performed									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Non-scheduled traffic <sup>1</sup>	257 190	238 380	265 460	272 790	244 930	240 720	266 590	262 560	245 105	237 320
Annual change(%)	6.8	-7.3	11.4	2.8	-10.2	-1.7	10.7	-1.5	-6.6	-3.2
Scheduled traffic	1 512 040	1 622 250	1 790 370	1 726 580	1 736 070	1 738 510	2 015 070	2 199 940	2 365 010	2 544 540
Annual change(%)	3.0	7.3	10.4	-3.6	0.5	0.1	15.9	9.2	7.5	7.6
Total traffic	1 769 230	1 860 630	2 055 830	1 999 370	1 981 000	1 979 230	2 281 660	2 462 500	2 610 115	2 781 860
Annual change(%)	3.5	5.2	10.5	-2.7	-0.9	-0.1	15.3	7.9	6.0	6.6
Non-scheduled traffic as percentage of total	14.5	12.8	12.9	13.6	12.4	12.2	11.7	10.7	9.4	8.5

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 6. Accidents of aircraft with a certificated maximum take-off mass of more than 2 250 kg involving passenger fatalities on scheduled air services 1988 – 2007**

Year	Aircraft accidents	Passengers killed	Passenger fatalities per 100 million		Fatal accidents per 100 million		Fatal accidents per 100 000	
			Passenger-km	Passenger-miles	km flown	miles flown	aircraft hours	aircraft landings
<i>Excluding the USSR up to 1992 and the Commonwealth of Independent States thereafter.</i>								
1988	25	711	0.05	0.08	0.20	0.32	0.13	0.18
1989	29	879	0.06	0.09	0.22	0.36	0.13	0.21
1990	25	561	0.04	0.06	0.18	0.29	0.11	0.17
1991	23	517	0.03	0.05	0.16	0.27	0.11	0.16
1992	24	972	0.05	0.09	0.16	0.26	0.10	0.17
1993	32	883	0.04	0.08	0.21	0.33	0.13	0.22
1994	23	957	0.05	0.08	0.14	0.22	0.09	0.14
1995	19	528	0.02	0.04	0.10	0.17	0.07	0.11
1996	21	1 152	0.05	0.08	0.11	0.18	0.07	0.12
1997	24	859	0.03	0.05	0.12	0.19	0.07	0.13
1998	19	856	0.03	0.06	0.10	0.14	0.06	0.10
1999	19	299	0.01	0.02	0.09	0.14	0.06	0.10
2000	18	755	0.02	0.04	0.08	0.12	0.05	0.09
2001	11	441	0.01	0.02	0.05	0.07	0.03	0.05
2002	10	653	0.03	0.03	0.05	0.07	0.02	0.05
2003	7	466	0.02	0.03	0.03	0.05	0.02	0.03
2004	8	175	0.01	0.01	0.03	0.05	0.02	0.04
2005	16	694	0.02	0.03	0.06	0.09	0.04	0.07
2006	8	365	0.01	0.02	0.03	0.05	0.02	0.04
2007	10	581	0.01	0.02	0.03	0.05	0.02	0.04
<i>Including the USSR up to 1992 and the Commonwealth of Independent States thereafter.</i>								
1988	28	741	0.04	0.07	na	na	na	na
1989	29	879	0.05	0.08	na	na	na	na
1990	29	632	0.03	0.06	na	na	na	na
1991	28	637	0.03	0.06	na	na	na	na
1992	28	1 070	0.06	0.09	na	na	na	na
1993	34	941	0.04	0.08	0.21	0.33	0.12	0.22
1994	27	1 166	0.05	0.09	0.15	0.25	0.10	0.16
1995	24	698	0.03	0.05	0.12	0.20	0.08	0.13
1996	24	1 173	0.05	0.07	0.12	0.19	0.08	0.13
1997	25	921	0.04	0.06	0.12	0.19	0.07	0.13
1998	19	856	0.03	0.05	0.09	0.14	0.06	0.10
1999	20	300	0.01	0.02	0.09	0.14	0.06	0.10
2000	18	757	0.03	0.04	0.07	0.12	0.05	0.08
2001	13	579	0.02	0.03	0.05	0.08	0.03	0.06
2002	11	667	0.02	0.03	0.05	0.07	0.03	0.06
2003	7	466	0.02	0.02	0.03	0.05	0.02	0.03
2004	9	207	0.01	0.01	0.03	0.05	0.02	0.04
2005	17	712	0.02	0.03	0.06	0.09	0.04	0.07
2006	12	751	0.02	0.03	0.04	0.06	0.02	0.05
2007	11	587	0.01	0.02	0.03	0.05	0.02	0.04

Source.— ICAO accident/incident report programme (ADREP) and ICAO Air Transport Reporting Form A (Traffic).

**Table 7. Aviation security**

Year	Number of acts of unlawful seizure			Number of acts of facility attack			Number of persons injured or killed during acts of unlawful interference		
	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
1987	15	4	6	2	0	3	—	121	166
1988	12	7	3	0	0	2	—	21	300
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

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, which is funded by the Government of Afghanistan, is to enhance the capability of the Ministry of Transport and Civil Aviation (MOTCA) to enable 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) at the end of the transitional period covered by the project. This project was initiated in 2007 for an expected duration of 30 months.

###### *Project achievements*

The project only commenced operations in mid-November 2007 with the arrival of the project manager. Four other experts arrived to take up their assignments. Essential items to establish the offices as well as essential items for the security of the experts and their property were procured. The project manager prepared for the arrival of twenty operational assistance (OPAS) experts in the fields of air traffic control, rescue and firefighting, meteorology, aeronautical information services, nav aids and communications maintenance, and electrical and mechanical engineering, all with training experience.

#### ARGENTINA

##### Establishment of the National Civil Aviation Agency (ANAC)

###### *Project goal*

The objective of this project, funded by the Government of Argentina, is to assist in the establishment of the National Civil Aviation Agency (ANAC) with appropriate oversight capabilities. For achieving these objectives, qualified international experts will work with national counterparts to ensure a smooth transition of civil aviation operations from the Air Force under the Ministry of



Defence to the civil aviation authority, taking into account national laws and ICAO policies, Standards and Recommended Practices (SARPs). This project began in September 2007 and has an estimated duration of 36 months.

### ***Project achievements***

The recruitment process for a team of international experts to assist in the establishment of the new civil aviation authority was initiated. The team is comprised of an international project coordinator, a communications, navigation and surveillance (CNS) expert, an air traffic management (ATM) expert and an expert on air transport and legal matters, who are expected to initiate their assignments in Argentina in January 2008 for an initial period of six months.

### **Project to modernize the CNS/ATM Systems**

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

The objective of this project, which is funded by the Government of Argentina, is to assist the Government in the implementation of communications, navigation, surveillance (CNS) services according to the Caribbean and South American (CAR/SAM) Facilities and Services Implementation Document (FASID). The project, which began in 2004, with an expected duration of two years, was extended through December 2007.

### ***Project achievements***

Project activities focused mainly on the procurement of an automated message handling system (AMHS) simulator air traffic management system, communication equipment in various frequency bands, a microwave system, rescue and firefighting vehicles and voice communication control systems (VCCS). Towards the end of the year, the other two ongoing projects implemented by ICAO in Argentina for the *Strengthening of the Comando de Regiones Aéreas and Civil Aviation Airworthiness* were merged with this project to facilitate the transfer of civil aviation functions from the Air Force under the Ministry of Defence to the new civil aviation authority to be established.

### **Strengthening of the Comando de Regiones Aéreas**

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

The objective of this project, which is funded by the Government of Argentina, is to provide national professionals, procure equipment, provide international and local training to staff from the Comando de Regiones Aéreas de Argentina, as well as other activities that may be necessary to support the aeronautical authorities in complying with their responsibilities. The project began in 2003 with an expected duration of five years.



***Project achievements***

ICAO support was provided in the recruitment of civil aviation experts and administrative support staff for the Comando de Regiones Aéreas de Argentina, including national professionals and technical experts in various disciplines. This support enabled the Comando de Regiones Aéreas to develop and retain a workforce of qualified technical national civil aviation personnel.

**Civil Aviation Airworthiness*****Project goal***

The objective of this project, funded through an agreement between the Ministry of Defence of Argentina, the Comando de Regiones Aéreas de Argentina and ICAO, is to enhance the capabilities of the Government of Argentina in the areas of airworthiness certification, continuing airworthiness, training and certification of technical aeronautical personnel and safety oversight. This project, which began in 1993 with an initial duration of three years, has been extended through 2008.

***Project achievements***

National experts were recruited for the National Directorate of Airworthiness (DNA) to carry out, inter alia, the administration of the national aircraft registry, airworthiness certification of civil aircraft and repair stations. Comprehensive training was provided to DNA engineers, inspectors and other technical personnel in the areas of airworthiness regulations and airworthiness maintenance. This training was extended to inspectors from countries in the Latin American Region. The recruitment and regular training of technical aeronautical personnel and airworthiness inspectors ensured a high level of staff retention for the DNA, thus enhancing its safety oversight capabilities and ensuring compliance with applicable international Standards.

**BOLIVIA****Safety Oversight and Air Navigation*****Project goal***

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

***Project achievements***

The recruitment of 135 national professionals ensured a high level of staff retention and an annual increase in the DGCA personnel seniority average. DGCA personnel received a total of 4 372 man-hours of training on personnel licensing, operations, airworthiness, air navigation, aviation security, facilitation, administration, legal matters and computer science, including fellowship training, and participated in 46 international seminars/conferences. Two hundred and five specialists received airport security training. The Bolivian Aeronautical Regulations were harmonized with the Annexes to the Chicago Convention and procedures were developed for DGCA activities. The accident prevention area was established and 50 security seminars were conducted. An integrated aeronautical system was developed and implemented, making possible the automated administration of aircraft registered in Bolivia, and the National Air Navigation Plan was approved. The accident and incident rates decreased by 50 per cent in 2007 compared to the 2006 rates.

**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 efficient and effective civil aviation structure that responds to both the dynamics of the aviation industry and the country's social and economic development, which promotes trade and tourism. This project has been extended through 2009.

***Project achievements***

Essential documents for the implementation of the project were prepared by five ICAO experts, four of whom have been repatriated. Applications were received for the selection of the top management team including a Chief Executive Officer, a Corporate Secretary and six Directors on the basis of the terms and conditions of service as well as remunerations fixed by the Ministry of Works and Transport. A proposal for the establishment of an Independent Aircraft Accident/Incident Investigation Unit, prepared by the ICAO project coordinator (PC), was accepted by the Ministry. The PC completed the preparation of draft Independent Aircraft Accident/Incident Regulations. The Ministry agreed, in principle, that more ICAO experts are required to join the project as soon as the members of the top management have been hired to assist the CAA in the initial stages of its activities. These activities will include the preparation of a five-year business plan, drafting of a general Air Transport Act, appointment of middle management staff, transfer and/or retention of personnel, drafting of authority matrix, preparation of a training plan and approval of the General Terms and Conditions of Service

Regulations prepared by the ICAO human resources consultant. A revised comprehensive work plan was prepared to this effect and submitted to ICAO Headquarters and the Ministry of Works and Transportation.

## **BRAZIL**

### **Technical Assistance Project to the Brazilian Company of Airport Infrastructure (INFRAERO) in Airport Planning**

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

The objective of this project, funded by the Government of Brazil through its public airport infrastructure company INFRAERO, is to improve INFRAERO's technical training capabilities, as well as the planning and management of airport infrastructure through the development of airport master plans derived from existing airport development plans. This project began in 2004 with an expected duration of 12 months. Based on ministerial approval, the project was extended until 2008.

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

In accordance with the revised approved work plan and with the assistance of four newly recruited national experts, a survey was undertaken in order to update the current airport development plans. The directives in force at the main civil aviation governmental institutions for the development of airport sites were consolidated and annual air traffic movement statistics for the coming five, ten and twenty years, including peak-hours data, were collected for runways, cargo and passenger aprons, and passenger terminals. Based on these statistics, instructions will be provided to Brazilian institutions concerned with airport activities, which will facilitate the adjustment of airports to the forecasted traffic demands.

### **Civil Aviation Research and Training**

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

The main objective of this project, which is 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). The project, which began in July 2001 for an initial duration of five years, was extended until December 2008.

***Project achievements***

Fifty-seven international missions related to project activities were undertaken, including the participation of personnel in congresses and symposia. Eighteen national and four international fellowships were implemented in the fields of airspace engineering, flight safety, aviation security and airworthiness. Several reports on human factor issues were prepared and presented at international symposia. International publications concerning security, safety, airport infrastructure and research development were purchased through the project. Experts were recruited to develop aircraft and helicopter training courses and handbooks, and to adjust the English language proficiency test taken by the Brazilian flight crew members to ICAO's requirements.

**CNS/ATM Systems Implementation*****Project goal***

The objective of this project, which is funded by the Government of Brazil, is to develop and implement the communications, navigation and surveillance/air traffic management (CNS/ATM) systems in accordance with the Caribbean/South American (CAR/SAM) Regional Air Navigation Plan and ICAO SARPs. This project began in 2001 for a planned duration of five years and was extended through 2009.

***Project achievements***

Progress continued in the development of a qualified workforce of air navigation experts at the Airspace Department of Control (DECEA) for the successful transition to the CNS/ATM systems. Twenty international missions were undertaken by DECEA experts to participate in technical visits, congresses and symposia on CNS/ATM and five national fellowships were implemented. An Air Navigation Management Centre was established with the support of the Institute of Airspace Control (ICEA) in São José dos Campos and the ICEA Headquarters was transferred to Rio de Janeiro where it is fully functioning. With the participation of national experts, several courses were developed and implemented at ICEA, such as aeronautical information services (AIS), radar operations, and aeronautical telecommunications network. Some distance education courses were also developed. Total identification of the CNS and satellite resources available in the country was finalized. The installation and maintenance of a Brazilian tests platform, comprising five test reference stations (TRS) and one test master station (TMS) was carried out. Tests for the satellite-based augmentation systems (SBAS) were performed in order to analyse the means of augmenting the performance of the Global Navigation Satellite System (GNSS) signals for air navigation, taking into account the Brazilian environment and requirements. A ground-based augmentation system (GBAS) test station at Galeão Airport was installed and included in the international programme of



GBAS certification for operational use. A joint project with the Federal Aviation Administration (FAA) to implement area navigation (RNAV) required navigation performance (RNP) routes was also developed.

## 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 and by carrying out refresher training courses for air traffic controllers. This project, which began in 2003 with an initial duration of 18 months, has been extended through April 2008.

#### *Project achievements*

Courses on aerodrome flight information services (AFIS) were designed to train staff currently manning air traffic control (ATC) towers at eight airports in the Democratic Republic of the Congo (DRC). The level of safety has been successfully enhanced by a comprehensive training programme. On-the-job training focuses on air traffic management, operational requirements for communication, navigation and surveillance (CNS) and search and rescue services with a view to modernizing outdated services. A DRC aviation steering committee was established with all relevant parties providing guidelines and direction. A GNSS maintenance programme scheduled to commence in early 2008 will update the data recorded during the previous survey of airports using the ICAO Earth-centred Model World Geodetic System – 1984 (WGS-84). The project is expected to enhance safety at all airports where area navigation (RNAV) global navigation satellite system (GNSS) non-precision approach (NPA) were published. The Goma Airport was reopened by the ICAO-managed project for operators after the volcano eruption in January 2002 which damaged the runway and the taxiway with lavaflow deposits. The asphalt resurfacing of the runway, taxiway and apron will allow for passenger aircraft size in the order of Boeing 727. Technical specifications were developed and utilized for tender purposes.

## 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 at Quito and Guayaquil; redesign the organizational structure of the Directorate General of Civil Aviation (DGCA); upgrade its human resource capabilities by the training of staff; and optimize the fulfilment of its safety oversight responsibilities. This project, which began in 1998, has a planned duration of nine years.

#### *Project achievements*

The project facilitated the recruitment, training and retention of qualified civil aviation professionals and technical experts assigned within the institution in the cities of Quito, Guayaquil and Galapagos, increasing the aeronautical authority's oversight and inspection capabilities. At the end of 2007, procurement requests that were on hold were reinstated by the DGCA and the revalidation of offers was sought from the suppliers in regard to a secondary radar to be installed at San Cristobal (Galapagos), the installation of which is pending authorization by the Ministry of Environment of Ecuador; maintenance work was done on the radar equipment and the very small aperture terminal (VSAT) network (Phase I) at the Mariscal Sucre International Airport in Quito; and implementation of DVOR/DME for El Coca Airport began.

## EGYPT

### TRAINAIR Programme for EgyptAir

#### *Project goal*

The objective of this project, funded by EgyptAir Airlines, is to upgrade and expand the capabilities of the methodological training system of this company through the introduction of the ICAO TRAINAIR approach in their training division. This project was completed in 2007.

#### *Project achievements*

Through the participation in the TRAINAIR Training Managers Workshop, senior Civil Aviation Training Centre (CATC) personnel were trained in the principles of the effective utilization of Standardized Training Packages (STPs) and other

advanced training methodology. Two new STPs were developed in accordance with TRAINAIR standards and two imported STPs were adapted to local requirements. Two national course developers were provided with on-the-job training on the course development process and were recognized by the TRAINAIR Central Unit (TCU) as qualified TRAINAIR Course Developers. The TCU granted the EgyptAir Training Centre full membership in the TRAINAIR Programme.

## EQUATORIAL GUINEA

### Reinforcement of National and Institutional Capacity in Civil Aviation

#### *Project goal*

The objectives of this project, funded by the Government of Equatorial Guinea and the UNDP, are to develop comprehensive aeronautical regulations for Equatorial Guinea and to establish a unit for the inspection of operations and airworthiness of aircraft and for the licensing of aircraft and flight operations personnel. The project also includes the provision of direct operational assistance in various fields, such as airline operations, aerodromes, navigation aids (navaids) maintenance and electrical engineering, as well as the training of civil aviation personnel and the preparation of a Master Plan for the development of civil aviation. This project began in 2004 and has an expected duration of four years.

#### *Project achievements*

Oversight control of airworthiness conditions and personnel licensing was improved, and airlines were instructed on the procedures for obtaining an air operator certificate (AOC). Methodologies were established for approval and/or certification of aerodromes. Aviation security (AVSEC) training was provided to national personnel. The new organizational structure of the Directorate General of Civil Aviation (DGCA) was approved, and the DGCA was supplied with materials, office space, transportation and computer equipment.

## FIJI ISLANDS

### Development of a Civil Aviation Human Resources and Training Plan

#### *Project goal*

The objective of this project, which is funded by the Civil Aviation Authority of the Fiji Islands (CAAFI), is to provide expertise to CAAFI in the area of civil aviation management in order to provide more efficient use of resources and to develop a

soundly based human resources Master Plan for civil aviation to better fulfill international, regional and national regulatory obligations, industry needs as well as ICAO Universal Safety Oversight and Security Audits requirements. This project, which began in 2007, has an expected duration of six months.

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

The two ICAO experts in civil aviation organization and planning and civil aviation training began to review the existing CAAFI organizational structure, mandate, responsibilities and functions as a regulator and to assess human resources needs in each field and specialty of the various divisions of CAAFI. In parallel, the experts began to draft a recruitment plan for acquiring additional personnel and to prepare a training programme for both existing and new staff.

## **GUATEMALA**

### **Expansion and Modernization of La Aurora International Airport in Guatemala**

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

The objective of this project, funded by the Government of Guatemala, is to assist in the expansion and modernization of the La Aurora International Airport, Guatemala City, and to ensure compliance with operational and security requirements in the national regulations, ICAO SARPs and the regional air navigation plan. A project revision now includes the financing for the airport expansion. This project, which began in 2005 with an expected duration of two years, has been extended through 2008.

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

In 2007, implementation of Phase I of the Master Plan continued increasing the terminal building's operational capacity. Work was carried out in relation to both the main construction contracts and the main equipment purchase and installation contracts, with progress surpassing 80 per cent in these areas. This progress led to significant achievements in terms of enhanced safety and efficiency of airport operations and economic development for Guatemala, and the DGCA achieved FAA Category I status. The increased airport capacity enabled the arrival of new airlines to Guatemala. With the sector's increased competitiveness, there has been a corresponding decrease in the average cost of air transport in Guatemala and air traffic has increased significantly. There has also been a significant increase in the quality of passenger service.

**Expansion and Modernization of Mundo Maya International Airport in Petén, Guatemala*****Project goal***

The objective of this project, funded by the Government of Guatemala and the Instituto Guatemalteco de Turismo (INGUAT), is to assist the Directorate General of Civil Aviation in the modernization of Mundo Maya International Airport in Petén in accordance with applicable international standards and national regulations. This project, which began in 2005 with an expected duration of one year, has been extended into 2008.

***Project achievements***

The revision of legislation for the renewal of the national aeronautical sector was carried out and proposals were put forward, including the establishment of an autonomous airport management entity. Recommendations were made in regard to the commercial operation of airports. These recommendations served as a basis for both a Bill to be passed in the coming months, and for the establishment of the conditions for the call for tenders for the expansion of commercial space at the International Airport. The modernization of the airport will make it possible to respond to a growing air traffic demand, while bringing about the concomitant development of the entire region.

**Integral Modernization of the National Airport System in Guatemala*****Project goal***

The objective of this project, funded by the Government of Guatemala, is to assist in the development planning and modernization of airport facilities and services at Cobán, Esquipulas, Huehuetenango, Puerto Barrios, Quetzaltenango and Retalhuleu domestic airports, in accordance with applicable international standards. This project began in 2005, with an expected duration of one year, and has been extended through 2008.

***Project achievements***

Activities carried out under this project included the paving of the runway and the construction of the terminal building at Quetzaltenango Airport, the construction of administrative buildings at Mundo Maya International Airport and the renovation of the Directorate General of Civil Aviation building. Approximately 70 per cent of the civil works were carried out and it is estimated that it will be completed within the next six months.

**INDIA****ICAO SARPs Compliance – Hyderabad International Airport*****Project goal***

The objective of this project, which is funded by Hyderabad International Airport Company Ltd. (HIAL), is to review the detailed designs of the airport facilities and equipment (excluding CNS/ATM and aeronautical meteorological systems), and to ensure compliance with ICAO Standards and Recommended Practices (SARPs). Other objectives are to review the aerodrome manual to be developed by HIAL, to conduct an independent safety inspection of the completed facilities and equipment prior to submitting an application to the Directorate General of Civil Aviation of India to grant an aerodrome certificate, to review the safety management system and to advise HIAL of any necessary rectification of deficiencies. The project commenced in January 2006 and has a proposed duration of 27 months.

***Project achievements***

An ICAO airport engineer and an ICAO electro-mechanical engineer reviewed the detailed design and construction of the airside and electro-mechanical facilities at the Hyderabad International Airport for their compliance with ICAO SARPs and guidelines, and published detailed reports on their findings.

**Aeronautical Study – Mumbai International Airport*****Project goal***

The objective of this project, which is funded by the Airports Authority of India (AAI), is to conduct aeronautical studies at Mumbai International Airport to determine the effects of new constructions on the safety and regularity of aircraft operations following ICAO *Procedures for Air Navigation Services – Aircraft Operations* (PANS-OPS) criteria. The project, which began in 2006 with an expected duration of approximately two months, was extended to cover a further study in 2007.

***Project achievements***

An ICAO PANS-OPS procedures expert was fielded for a period of three weeks to assess the compliance of 28 obstacles in the vicinity of the Mumbai International Airport with the relevant ICAO SARPs, to review visual flight rules (VFR) traffic routes as well as possible safety implications and operational penalties. The resulting findings were published in detailed reports.

**Preliminary Study on the Operation of two Airports for Goa*****Project goal***

The objective of this project, which was funded by the Government of the State of Goa, was to study the economic viability and efficiency of simultaneous operations at the Dabolim Airport and a new airport to be constructed at Mopa. The project was implemented within one month in 2007.

***Project achievements***

An ICAO team comprising of an airport operations/planning expert and an air traffic forecasting expert/air transport economist was fielded for a period of two weeks to review traffic forecasts, capital investment programmes and market data with a view to determining the financial and economic impact of, and to develop recommendations for, a possible dual airport operation. The resulting findings were published in a detailed report.

**Aeronautical Study – Belgaum*****Project goal***

The objective of this project, which was funded by the Airports Authority of India, was to conduct a study to determine the effects of the construction of a wind farm in the vicinity of the Belgaum Airport. The project was implemented within one month in 2007.

***Project achievements***

An ICAO PANS-OPS procedures expert, who was fielded for a period of one month, analysed the potential impact that the planned construction could have on safety and operational efficiency and prepared a risk analysis of aeronautical obstacles in the vicinity of the Belgaum Airport. The resulting findings were published in detailed reports.

**SARPS Compliance Verification – Bangalore International Airport*****Project goal***

The objective of the project, which is funded by the Bangalore International Airport Company Ltd. (BIAL), is to verify compliance with ICAO SARPs of the facilities and equipment of BIAL. The project commenced in November 2007 and has a proposed duration of eight months.

***Project achievements***

The first phase of the project was implemented by an ICAO team composed of an airport engineer, an airport electro-mechanical engineer and an aircraft fuelling system safety expert, that performed a technical review of the design of the facilities and equipment for the BIAL. The resulting findings were published in a detailed report.

**Development/Modernization – Delhi International Airport*****Project goal***

The objective of the project, which is funded by Delhi International Airport Company Ltd. (DIAL), is to assist in the technical review of the design, construction and installation of the airside facilities entrusted to the engineering, procurement and construction (EPC) contractor, with the primary focus on the verification of compliance with ICAO SARPs of the facilities and equipment of Delhi International Airport. The project commenced in November 2007 and has a proposed duration of 13 months.

***Project achievements***

The first phase of the project was implemented by an ICAO team comprising of an airport engineer, an airport pavement expert, a rescue and firefighting expert and an aircraft fuelling system safety expert, that performed a technical review of the design basis report including drawings, technical specifications and construction method statements for the Delhi International Airport. The resulting findings were published in a detailed report.

**Obstacle Limitation Review Committee*****Project goal***

The objective of the project, which is funded by the Airports Authority of India, was to assist the Obstacle Limitation Review Committee of the Airports Authority in determining a policy on aeronautical studies related to the subject of obstacle clearance in the vicinity of airports. The project was implemented within two weeks in December 2007.

***Project achievements***

An ICAO aerodrome obstacle clearance surfaces expert participated in the discussions of the Obstacle Limitation Review Committee, assisting the Airports Authority of India in the determination of a policy on the scope of aeronautical studies to be performed for establishing compliance with obstacle clearance in the vicinity of airports as required by ICAO SARPs.





## LAO PEOPLE'S DEMOCRATIC REPUBLIC

### SARPs Compliance – Louang Namtha Airport Development

#### *Project goal*

The objective of this project, which is funded by the Asian Development Bank (ADB), is to review, monitor and report on the implementation of the project at predetermined milestones to ascertain compliance of the airport design with regard to relevant operational and safety standards, as prescribed by ICAO SARPs and other industry-wide accepted practices. The project commenced in 2006 and has a proposed duration of 24 months.

#### *Project achievements*

An ICAO aerodrome architect was fielded in April for four days to review the design parameters, as well as the design of the aerodrome project. The resulting findings were published in a detailed report.

## NIGERIA

### TRAINAIR Programme for Nigeria

#### *Project goal*

The objective of this project, funded by the Federal Ministry of Aviation of Nigeria, is to upgrade and expand the capabilities of the methodological training system of the Nigerian College of Aviation Technology (NCAT) through the introduction of the ICAO TRAINAIR approach in this training division. The project began in 2007 with a planned duration of one year.

#### *Project achievements*

Through the participation in the TRAINAIR Course Developers Workshop, senior Civil Aviation Training Centre (CATC) personnel were trained in the principles of the effective utilization of Standardized Training Packages (STPs) and other advanced training methodology. A total of three STPs are to be developed under this project. One new STP was developed in accordance with TRAINAIR standards and another two STPs are in the pipeline. In addition, two imported STPs were adapted to local requirements. Four national course developers were provided with on-the-job training on the course development process and were recognized by the TRAINAIR Central Unit (TCU) as qualified TRAINAIR Course Developers. The TCU granted the Nigerian College of Aviation Technology (NCAT) full membership in the TRAINAIR Programme.

**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 (DGCA) 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 began in 1993 and had a planned duration of eight years. However, the project has been extended on a yearly basis at the behest of the DGCA.

***Project achievements***

Extensions for this project were requested by the DGCA to improve flight safety. Project activities continued to enhance the organizational structure and procedures of the Flight Safety Department, particularly in the airworthiness and licensing areas, where project objectives were met. The development of civil aviation regulations and procedures in compliance with ICAO SARPs progressed.

**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 SARPs. This project, which began in 2003 with an initial duration of one year, has been extended through 2007.

***Project achievements***

Progress continued in the expansion and modernization of the facilities of the Tocumen International Airport, including the passenger terminal building. The implementation of integrated airport systems is in its final phase. The procurement process for the acquisition of an emergency electrical power plant was completed and other required airport equipment procured. International tendering was carried out for the procurement of a water treatment plant. The third phase

of the expansion of the airport, consisting of the construction of a new terminal and administrative office buildings, was initiated with the award of a contract for the preparation of the required designs.

### **Restructuring of Civil Aviation and Human Resources Development**

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

The objective of this project, which is funded by the Government of Panama, is to strengthen the institutional capacity of the Civil Aviation Authority (CAA) to effectively carry out its functions as a modern organization in accordance with the laws of its establishment and the responsibilities of the Government arising from the Convention on International Civil Aviation and its Annexes. The project, which began in 1999 with an expected duration of five years, has been extended to 2008.

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

Activities were carried out in different areas including training for management staff in air transport, safety inspection, airport maintenance and major repairs. Basic aviation security (AVSEC) training was provided to new personnel. Consultations were held regarding radar, air safety and computer systems, the balanced scorecard approach (management indicators), aeronautical standards and bird strikes, airport operations, taxation, registration and nationalization of aeronautical goods, procurement of an aeronautical message handling system (AMHS), an aeronautical information services database, and an automatic terminal information service (ATIS) and the upgrading of the Integrated System of Aeronautical Regulations (SIAR), as well as related equipment and services.

## **PARAGUAY**

### **Support of the National Directorate of Civil Aeronautics**

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

The objective of this UNDP project of national execution, funded by the Government of Paraguay, is the institutional strengthening and capacity development of the Directorate of Civil Aeronautics (DINAC) to provide air navigation services, as well as the modernization of the air navigation infrastructure in accordance with ICAO SARPs and the Regional Air Navigation Plan. This project, which began in 2004 with an expected duration of one year, has been extended through 2007.

***Project achievements***

Project activities focused on the modernization of aeronautical and airport facilities. An aeronautical message handling system (AMHS) was put into operation. In the area of flight safety, manuals for the aircraft regularly operating at Paraguayan airports were updated.

**PERU****Modernization of the Civil Aviation Infrastructure*****Project goal***

The objective of this project, funded by the Government of Peru, is to provide assistance to the Directorate General of Civil Aviation (DGCA) in the recruitment of international experts, national professionals and technical experts; provision of specialized training to civil aviation personnel; purchase of equipment; and participation of DGAC staff in missions, as required, in order for the civil aviation authority to develop its safety oversight capabilities in accordance with ICAO SARPs. The project started in 2002 and was completed in June 2007.

***Project achievements***

Project activities included the recruitment of civil aviation experts and inspectors for the DGCA in the areas of operations, airworthiness, aviation security, accident investigation, air navigation, legal advisory, and civil aviation policies and training, all of which contributed to the retention of a workforce of qualified civil aviation professionals. Twenty-three fellowships were awarded for training in the areas of flight simulators, information technology, human factors, quality assurance and civil aviation management infrastructure. A seminar on safety management systems (SMS) was carried out for 33 participants. A course on cabin safety and flight test issues was offered by the Federal Aviation Administration (FAA) in coordination with ICAO for 22 participants. A preliminary report on the National Strategic Civil Aviation Plan was finalized. A feasibility study for the procurement of a civil aviation information system was concluded. Master Plans for the airports of Arequipa, Nazca, Puerto Maldonado, Tacna, Ilo, Juliaca, Ayacucho, Andahuaylas and Aerodrome of Chivay were concluded. The DGCA obtained ISO 9001: 2000 certification in the areas of regulations, infrastructure, air traffic and aviation security.

## PHILIPPINES

### Assistance to the Air Transportation Office

#### *Project goal*

The objective of the project, which is funded by the Government of the Philippines, is to provide assistance and advise the Government on the improvement of the safety oversight capability of the Air Transportation Office (ATO) through the performance of reviews and inspections of air carriers, training of staff and development of surveillance programmes. This project, which commenced in 1996, for an initial duration of two years, was extended through 2007.

#### *Project achievements*

An ICAO team composed of an ICAO flight safety consultant, an ICAO air traffic management consultant and an ICAO aerodrome certification consultant was fielded for the duration of 5, 0.5 and 3 months respectively. An ICAO national professional project personnel (NPPP) project manager commenced in March for 12 months, and was joined in October by three operational assistance (OPAS) experts for a period of 12 months each.

## 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 comprises providing aerodrome engineering expertise, as well as acting as the CAA representative with the contractors and consultants. This project began in 2003 and has an expected duration of five years.

#### *Project achievements*

Expert assistance in the area of airport engineering continued to be provided to the NDIA Steering Committee, which is responsible for the planning, development and construction of the airport. Technical assistance was provided in the concept design and the preliminary designs were approved for the majority of the components of the project. ICAO assistance was provided in the evaluation of proposals submitted by international consultants and in the selection of contractors, and to date 32 construction contracts have been tendered and awarded.

In this regard, reclamation and the related contracts were completed; the airfield package is 40 per cent completed; the air traffic control tower is in its early stage of construction; the design for the air traffic control equipment is finished, the tendering process completed and the evaluation of the tenders is in progress; and the aircraft refuelling systems and tank farm are under construction. ICAO expert assistance provided through this project ensured compliance with ICAO SARPs.

## **RUSSIAN FEDERATION**

### **TRAINAIR Programme for Russian Federation**

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

The objective of this project, funded by the St. Petersburg State Civil Aviation University (SPSCIU), Russian Federation, is to upgrade and expand the capabilities of the methodological training system of SPSCIU through the introduction of the ICAO TRAINAIR approach in this training division. This project was completed in 2007.

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

Through the participation in the TRAINAIR Course Developers Workshop, senior Civil Aviation Training Centre (CATC) personnel were trained in the principles of the effective utilization of Standardized Training Packages (STPs) and other advanced training methodology. A total of two STPs are to be developed under this project. Two new STPs were developed and completed in accordance with TRAINAIR standards and another two STPs are in the pipeline. In addition, two imported STPs were adapted to local requirements. Eight national course developers have been provided with on-the-job training on the course development process and were recognized by the TRAINAIR Central Unit (TCU) as qualified TRAINAIR Course Developers. The TCU granted the SPSCIU full membership in the TRAINAIR Programme.

## **SAUDI ARABIA**

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

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

The objectives of this project 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, has been extended through March 2008.

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

Thirty international experts worked on this project during 2007, 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 Flights to ensure compliance with recommended procedures and practices, 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, have provided GACA personnel with complementary training courses in the areas of CNS/ATM, radar and non-radar, as well as simulator training. ICAO experts also provided training on precision approach path indicator (PAPI) and assistance on establishing and approving specific site locations for new satellite rescue and firefighting stations. The replacement of international experts by qualified Saudi Arabian nationals continued to be steadily pursued for the purpose of attaining the process of Saudiization.

## **SINGAPORE**

### **Validation of Aeronautical Study – Singapore Changi Airport**

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

The objective of this project, which was funded by the Civil Aviation Authority of Singapore, was to assist the Civil Aviation Authority of Singapore in reviewing an aeronautical study related to obstacles in the vicinity of the Singapore Changi Airport. The project was implemented within one month in November 2007.

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

An ICAO PANS-OPS procedures expert was fielded in November to assess the compliance of obstacles in the vicinity of the Singapore Changi Airport with the relevant ICAO SARPs and to quantify any associated incremental risks to flight operations. The resulting findings were published in a detailed report.

## 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, under the supervision of the Director of the ICAO Technical Co-operation Bureau, for the operation and maintenance of essential facilities, equipment and services for international air transport operations, including humanitarian and relief flights and local flight operations within the Mogadishu Flight Information Region (FIR), as far as feasible on a self-financing basis, 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 extended through 2006. Due to the continuing instability and non-availability of a functional national government, the project will be extended further to 2009.

#### *Project achievements*

The project continued to provide for the management and administration of CACAS in coordination with the United Nations Humanitarian and Resident Coordinator of Somalia and the ICAO Regional Director, Eastern and Southern African Regional Office, enabling CACAS to remain abreast of current aviation technology and operational developments in the Africa-Indian Ocean (AFI) Region. 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 from the project office located in Nairobi. It also provided aerodrome flight information services (AFIS), rescue and firefighting and ground marshalling services at Hargeisa, Berbera and Bosasso airports and maintained a reporting station at Boroma airport. The project continued to operate AEROCOM substations at Hargeisa and at Garowe airports and an AIS briefing office at Hargeisa airport. Retroreflective markers were installed at Bossaso airport. The project completed site surveys for the installation of a very small aperture terminal (VSAT) which will be part of the North Eastern AFI VSAT (NAFISAT) network and will provide international aeronautical fixed telecommunications network (AFTN) and air traffic services (ATS) direct speech circuits with neighbouring FIRs. Equipment installation began in October 2007. Six fellowships were awarded for training on cartography, forecasting, internet and network security. A Mogadishu flight information centre (FIC) Rating and Validation course was conducted. CACAS



also supported local authorities, UNDP and other UN agencies with technical expertise and short assignments for airport assessments, and assessments were made of airports at Garowe, Hargeisa and Wajid.

## **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 building and augmenting its capabilities for providing an acceptable level of flight operations safety oversight. The project began in 2007 for an initial duration of 12 months.

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

Within four months of its inception, the project reached full staffing level. Outputs dealing with building a regulatory cell, identifying national staffing gaps and implementing a Master Surveillance Plan were completed, while the development and delivery of necessary training is approximately 85 per cent complete. The review, revision and/or development of safety-related manuals are progressing well. The primary focus of the project, since the completion of the ICAO and FAA safety audits, has been directed at the resolution of identified deficiencies.

## **SRI LANKA**

### **TRAINAIR Sri Lanka**

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

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

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

Through the participation in the TRAINAIR Training Managers Workshop, senior CATC personnel were trained in the principles of the effective utilization of Standardized Training Packages (STPs) and other advanced training method-

ology. Two new STPs were developed in accordance with TRAINAIR standards and two imported STPs were adapted to local requirements. Two national course developers were provided with on-the-job training on the course development process and were recognized by the TRAINAIR Central Unit (TCU) as qualified TRAINAIR Course Developers. The TCU granted the CATC full membership in the TRAINAIR Programme.

## **THAILAND**

### **Training programme for Airports of Thailand Public Company Ltd.**

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

The objective of the project, which was financed through Airports of Thailand Public Company Ltd. (AOT), was to provide training courses to AOT personnel. The project was implemented within a total of three weeks in 2007.

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

An ICAO Headquarters staff conducted a course on Aviation Security Training Package Management for nine days in June and a Screener Certification Process workshop for five days in July.

## **UNITED NATIONS MISSION FOR KOSOVO**

### **Creation of a Civil Aviation Regulatory Office (CARO)**

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

The objective of this project, funded by the United Nations Mission in Kosovo (UNMIK), is to assist UNMIK in building the institutional components required for a safe and efficient civil aviation infrastructure in accordance with ICAO SARPs and European Commission regulations. This project, which began in 2003 with an expected duration of one year, was extended to the end of June 2007.

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

Progress continued towards the establishment of an efficient civil aviation regulatory system in Kosovo and the development of local expertise for the Civil Aviation Regulatory Office (CARO), currently headed by an ICAO expert. Competency training continued to be provided for all personnel in safety and security functions, as well as inspector training. During the year, CARO reached an adequate number of personnel to cater for the needs of a regulatory office.



The main areas of oversight such as safety and security, air transport, and air navigation services were considered to be thoroughly understood. Staff continued to acquire expertise through formal courses, professional training and partnership arrangements with other European CAAs. Additional guidance manuals for the industry were produced. Implementation continued of European Commission aviation regulations and directives applicable to Kosovo under the European Common Aviation Area (ECAA) Agreement in all areas of aviation activities. Kosovo's compliance with the ECAA agreement was assessed in November 2007 and the draft report noted positive progress made so far.

## VENEZUELA

### Modernization of Airports Air Traffic Control

#### *Project goal*

The objective of this project, funded by the Government of Venezuela, is to assist the Instituto Nacional de Aeronáutica Civil (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, has an expected duration of four years.

#### *Project achievements*

Progress continued in the implementation of the national programme for the modernization of air traffic control in Venezuela and the effective transition to CNS/ATM. This included the installation of communication, navigation, surveillance and airport equipment, including radar systems, navigation aids, the World Area Forecast System (WAFS), search and rescue, communications equipment, control tower, rescue and firefighting, and other associated equipment. Training was provided to enhance the capabilities of INAC technical personnel involved in the implementation of the systems. The World Geodetic System – 1984 (WGS-84) coordinates were determined for 33 airports in Venezuela.

### TRAINAIR Programme for INAC

#### *Project goal*

The objective of this project, funded by the Instituto Nacional de Aeronáutica Civil (INAC) of Venezuela, is to upgrade and expand the capabilities of the methodological training system of the Civil Aviation Training Centre “Miguel Rodríguez” through the introduction of the ICAO TRAINAIR approach in this training division. The project began in 2007 with a planned duration of one year.



***Project achievements***

Through the participation in the TRAINAIR Training Managers Workshop, senior Civil Aviation Training Centre (CATC) personnel were trained in the principles of the effective utilization of Standardized Training Packages (STPs) and other advanced training methodology. A total of three STPs are to be developed under this Project. One new STP was developed in accordance with TRAINAIR standards and it is near completion, another two STPs are in the pipeline. In addition, two imported STPs were adapted to local requirements. Three national course developers were provided with on-the-job training on the course development process and were recognized by the TRAINAIR Central Unit (TCU) as qualified TRAINAIR Course Developers. The Civil Aviation Training Centre "Miguel Rodríguez" is expected to be granted full membership of the TRAINAIR Programme in 2008.

**INTER-COUNTRY AND INTER-REGIONAL LISTINGS****AFRICA REGION**

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

***Project goal***

The objectives of this project, funded by Member States of the Banjul Accord Group (Cape Verde, Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone) and with financial input from the French Cooperation Agency, the International Financial Facility for Aviation Safety (IFFAS), the Boeing Company and the African Development Bank, are to enhance the safety of air transport operations; facilitate a coordinated approach with regard to shared technical expertise; augment national inspectors' technical knowledge and qualifications by providing theoretical and on-the-job training; perform regional air operator certification and surveillance tasks on behalf of the 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 the Member States. This project, which began in 2005 with an expected duration of two years, was extended through 2009.

***Project achievements***

The COSCAP-BAG project was staffed with one international airworthiness expert/chief technical adviser (CTA) and three regional inspectors (two flight operations and one airworthiness). Action was taken to fill CTA and flight operations inspectors positions. The Flight Safety Working Group (FSWG) was



established and held two meetings resulting in a draft revised set of COSCAP model regulations. The regulations were submitted and approved by the 5th Steering Committee held in Monrovia in October. In-country airworthiness training was provided by the CTA in Gambia, Ghana, Cape Verde and Nigeria at the request of the hosting countries. Training in airworthiness and flight operations, sponsored by the United States Department of Transportation (DOT) was provided to regional inspectors. Basic courses were also provided free of charge for national inspectors at the East African Training School in Nairobi. A course on safety management systems (SMS) sponsored by Cape Verde was held in Cape Verde. Assistance missions were carried out by the CTA and the regional flight operations inspector to Sierra Leone and by the regional flight operations inspector to Gambia, and a mock Federal Aviation Administration (FAA) International Aviation Safety Assessments (IASA) type audit was carried out in the Civil Aviation Authority of Nigeria.

**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 input from the French Cooperation Agency, the International Financial Facility for Aviation Safety (IFFAS), the Boeing Company and the African Development Bank, are to enhance the safety of air transport operations; facilitate a coordinated approach with regard to shared technical expertise; augment the technical knowledge and qualifications of national inspectors by providing classroom and on-the-job training; perform regional air operator certification and surveillance tasks on behalf of the Civil Aviation Authority (CAA), whose oversight capability is currently limited; and establish an aerodrome inspection programme which will lead to the creation of an aviation safety organization among the Member States. This project, which was approved in 2005, has an expected duration of three years.

***Project achievements***

A Steering Committee meeting was held in Brazzaville in May. The next meeting is planned to take place in Douala, Cameroon in April 2008. The project office is currently located in N'djamena, Chad.



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

***Project goal***

The objectives of this project, funded by Member States of the Southern African Development Community (Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe), are to enhance the safety of air transport operations; facilitate a coordinated approach with regard to shared technical expertise; augment the technical knowledge and qualifications of national inspectors by providing classroom and on-the-job training; perform regional air operator certification and surveillance tasks on behalf of the Civil Aviation Authority (CAA) whose oversight capability is currently limited; and establish an aerodrome inspection programme which will lead to the creation of an aviation safety organization among the Member States. This project, which began in 2007, has an expected duration of 30 months.

***Project achievements***

The project implementation and start-up formalities are in progress for the recruitment of the project team.

**Cooperative Development of Operational Safety and Continuing Airworthiness Project in the Member States of the Economic and Monetary Union of Western Africa (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), the French Cooperation Agency, the European Commission, the International Financial Facility for Aviation Safety (IFFAS) and the Boeing Company, 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 (CAA) 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, has an expected duration of three years.

***Project achievements***

A flight operations expert/chief technical adviser (CTA) was appointed to complement the COSCAP-UEMOA project team composed of one international airworthiness expert and four regional inspectors, one for flight operations, one for personnel licensing and two for airworthiness. Training was provided to the regional airworthiness inspectors by the Directorate General of Civil Aviation (DGAC) of France. Regional inspectors also participated in the government aviation safety inspector and train-the-trainer courses organized by the United States Department of Transportation (DOT) in collaboration with the COSCAP-BAG. Progress continued in the establishment of regional capability to provide training and technical support in regionally harmonized flight operation and airworthiness certifications in accordance with ICAO Annexes 1, 6 and 8 and to harmonize personnel licensing and training practices and procedures.

**SAR Project*****Project goal***

The objective of this project, funded by the Government of France, is to improve the quality of search and rescue (SAR) services in participating States from the Africa-Indian Ocean (AFI) Region. The project offers technical assistance and training for the implementation of recommendations resulting from a comprehensive evaluation of the SAR systems. This project began in 2003, with an expected duration of five years.

***Project achievements***

Evaluation missions were carried out in Togo and Guinea-Bissau for a total of 40 SAR evaluation missions since the project's inception. Assistance missions were carried out in Gabon, Ethiopia, Morocco, and Seychelles, during which legal and technical documentation were developed in compliance with international Standards and SAR exercises were conducted. The results of a study on the establishment of a Regional SAR Fund in Western and Central Africa and in Madagascar were presented to the Council of the African and Malagasy Civil Aviation Authorities (AAMAC). Two working groups, composed of African and European SAR experts, developed a set of template SAR documents that were adopted by a SAR Conference held in November 2007. SAR exercise (SAREX) programmes are being developed on the basis of the guidance material developed through the project.

**TRAINAIR Programme for ASECNA/EAMAC*****Project goal***

The objective of this project, funded by the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA), is to upgrade and expand the capabilities of the methodological training system of the École Africaine de la Météorologie et de l'Aviation Civile (EAMAC), through the introduction of the ICAO TRAINAIR methodology in this training division. The project began in 2007 with a planned duration of one year.

***Project achievements***

Through the participation in the TRAINAIR Course Developers Workshop, senior Civil Aviation Training Centre (CATC) personnel were trained in the principles of the effective utilization of Standardized Training Packages (STPs) and other advanced training methodology. A total of three STPs are to be developed under this project. One new STP was developed in accordance with TRAINAIR standards and another two STPs are in the pipeline. In addition, two imported STPs were adapted to local requirements. Four national course developers were provided with on-the-job training on the course development process and were recognized by the TRAINAIR Central Unit (TCU) as qualified TRAINAIR Course Developers. The TCU granted the EAMAC full membership of the TRAINAIR Programme.

**AMERICAS REGION****GNSS Transition in the 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 Chile, Colombia, Cuba, Spain, Venezuela and the Central American Corporation for Air Navigation Services (COCESNA), with support in kind from the European Commission (EC) and European Space Agency (ESA) through the Galileo Joint Undertaking (GJU), 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 global navigation satellite system (GNSS), AN-Conf/11 recommendations and the CAR/SAM Regional Planning and Implementation Group (GREPECAS) conclusions. The project started in 2003 with an expected duration of four years.



***Project achievements***

The conclusions of the second phase of this project, aimed at continued cooperation in the implementation of a GNSS operational model in the region, including an SBAS, were presented to the 5th Regional Coordination Meeting held in Costa Rica in September. Ionospheric analyses were carried out to evaluate whether it was possible to implement an SBAS in the equatorial regions using more robust receivers in the reference stations. The service volume simulation tool was used to rectify the proposed topology of the reference stations, and the end-to-end simulator was programmed. The ionospheric model defined was used to run the end-to-end simulations in order to rectify performances in the region.

**Transition to CNS/ATM Systems in the CAR/SAM Region*****Project goal***

The objective of this project, which is funded by 15 countries in the CAR/SAM Region, is to assist States in implementing new communications, navigation and surveillance/air traffic management (CNS/ATM) systems in accordance with the CAR/SAM Regional Implementation Plan and ICAO SARPs. This project, which began in 1998 with an expected duration of three years, was extended through 2008.

***Project achievements***

Automation data collection missions were carried out by an expert team of consultants from Ecuador, Peru and Venezuela (Phase I); Colombia, Honduras and Panama (Phase II) and Argentina, Chile and Uruguay (Phase III). The objective of this exercise was to compile the information regarding interface types being used by automated systems installed in the different control centres. The project is in its final stage and it continued to provide support to the automation of air navigation services, through studies on available automated systems in the CAR/SAM Region, through the development of technical specifications and procedures for the implementation of the interconnection of automated services, and through the implementation of a pre-operational platform of the automated air navigation services.

**CNS/ATM operational concept*****Project goal***

The objective of this project, which is funded by Argentina, Bolivia, Brazil, Chile, Peru, Panama, Paraguay, Uruguay and Venezuela, is the development and implementation of global air navigation plan initiatives that will lead to the transition from an air traffic management system based on ground systems to

one that is 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 operational 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 for an expected duration of five years.

### ***Project achievements***

The first meeting of the Coordination Committee was held in December 2007. The Committee considered and approved the Work Programme for 2008, which comprises activities focused on obtaining information on participating States' present situation regarding the implementation of performance based navigation (PBN), air traffic flow management (AFTM) at the regional level, and improvements on CNS capacity for en-route operation and terminal area; as well as the development of a strategy for the operational implementation and integration of air traffic management automated systems in the SAM Region and the development of guidelines for operational safety programmes.

### **Regional GNSS Augmentation Trials in the CAR/SAM Region**

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

The objective of this project, funded by the Governments of Argentina, Brazil, Chile, Colombia, Ecuador, Panama, Peru, Venezuela, the United States and the Central American Corporation for Air Navigation Services (COCESNA), is to develop a plan to test and evaluate the technical and operational benefits of the United States Federal Aviation Administration (FAA) augmentation system in the CAR/SAM Region, so as to contribute to the establishment of the operational model of the satellite-based augmentation system, which is being developed by the CAR/SAM Regional Planning and Implementation Group (GREPECAS) CNS/ATM implementation coordination group. This project, which began in 2001, with an expected duration of three years, has been extended through 2008.

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

A course on the final results of this project was carried out in Washington, D.C. in July 2007. The workshop addressed professionals in the area of CNS system planning who participated in previous project activities and was open to all States in the CAR/SAM Region. It was attended by 14 delegates from seven Member States and one international organization, as well as Bolivia and Paraguay and experts from the FAA and the MITRE Corporation. Its objective was to analyse the final results of the project as well as its impact in the implementation of GNSS systems in the CAR/SAM Region. The project is presently in its final stage.

## **Regional Safety Oversight System**

### ***Project goal***

The objective of this project, funded by Argentina, Bolivia, Brazil, Chile, Cuba, Panama, Paraguay, Peru, Spain, Uruguay, Venezuela, Airbus, Agencia Centroamericana de Seguridad Aeronáutica (ACSA), EMBRAER, LAN (Chile), ENAER (Chile), WAY-Peru, SEMAN-Peru and Venezuelan Airlines, 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 began in 2003 and has an expected duration of five years.

### ***Project achievements***

The Latin American Aviation Regulations groups on airworthiness (LAR AIR) and personnel licensing LAR PEL were harmonized. Extensive training was provided to national personnel of participating States including the following courses: Major Repairs and Alteration Course, Module Cabin Safety, Fourth Leader Auditor Course ISO 9001:2001, Cat II/Cat III Operations, Seminar on Safety Management System (SMS) Implementation in Aircraft Maintenance Organizations, Ramp Security Inspections Data Exchange Programme (IDISR), and LAR 145 (approved maintenance organizations) Course. Forty-three fellowships were awarded and a manual was prepared for the IDISR. The Sixteenth and Seventeenth Ordinary Meetings of the General Board reviewed the project's progress, and focal points met during the Fifth Coordination Meeting. Two meetings of the Panel of Personnel Licensing Experts and Aeronautical Medicine were held; the Panel of Operations Experts held its first meeting and the Panel of Airworthiness Experts held its third; the LAR Structures Experts Panel Meeting was also held and a meeting between the Regional Safety Cooperation Oversight System (SRVSOP) and the Latin American Civil Aviation Commission (CLAC) Focal Point on safety oversight took place in March. Multinational activities included auditing certification trials of maintenance organizations in Brazil, Chile and Peru; a LAR Auditors Registry was started; the modification of the layout of passenger accommodation (LOPA) of a BAW 4100 aircraft at the request of Paraguay was completed and an assessment of the aircraft operations area in Bolivia.

## **Management of the REDDIG Network and Administration of the Satellite Segment**

### ***Project goal***

The objective of this project, funded by Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, France, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela, is to establish a multinational mechanism for the administration of the South American Digital Network (REDDIG), taking into consideration regional developments and aimed at modernizing the aeronautical



fixed service communications so as to make it homogeneous, interconnectable and interoperable with other digital networks within the CAR/SAM Region. This project began in 2003 and has an expected duration of five years.

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

This project continued to efficiently manage the REDDIG Network and to administer the satellite communication segment, providing all participating States with a reliable and robust network for their aeronautical communications services. The REDDIG Administration and the MEVA II service provider submitted their proposal to interconnect both networks and this implementation is in its final stage. The REDDIG Management Centre was successfully transferred temporarily to Ezeiza, Argentina, to initiate the process to alternate the two Network Control Centres in order to enhance the reliability of the REDDIG operations.

#### **Technical Assistance 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 Agreement 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 starting on 1 January 2007. The project started in January 2007 with an expected duration of two years.

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

Support was provided in the recruitment and administration of local personnel. Fellowships were awarded for participation in seminars conducted in the region.

## **ASIA AND THE PACIFIC REGION**

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

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

This project, funded by participating Governments/Administrations in Bhutan, Cambodia, China (Hong Kong SAR and Macao SAR), Fiji, India, Indonesia, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia,



Nepal, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, Timor-Leste and Viet Nam, is aimed at ensuring compliance with international conventions, ICAO SARPs and guidance material related to aviation security. It is also aimed at creating a regional structure for cooperation and coordination in aviation security matters and for training aviation security personnel. This project was approved in 2004 and has an expected duration of 36 months.

### ***Project achievements***

The national aviation security legislation and regulations of 18 out of 21 States/Administrations participating in CASP-AP were reviewed in accordance with ICAO SARPs. Draft legal reports on the legislation and regulations of 18 States/Administrations were developed, 10 of which were discussed during on-site visits with the respective State/Administration teams. Specific recommendations were developed within the respective CASP-AP legal evaluation reports for each State as to how to remedy existing deficiencies. Drafting assistance was provided to certain States/Administrations and model legislation/regulations were developed to assist those lacking the required expertise. Draft National Civil Aviation Security Training Programmes were prepared for Bhutan, Cambodia, China, Indonesia, Lao People's Democratic Republic, Macau SAR (China), Malaysia, Maldives, Nepal, Sri Lanka, Thailand, Timor-Leste and Viet Nam. Training courses for aviation security instructors were held in Bhutan, Cambodia, China, Maldives, Mongolia and Thailand bringing the total number of aviation security instructors trained within the framework of this project to over 100. A draft National Civil Aviation Security Quality Control Programme was prepared for Thailand.

### **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, with in-kind and funding support from the Federal Aviation Administration (FAA), Transport Canada, the Boeing Company, Airbus and the European Aviation Safety Agency (EASA). The objective is to enhance the safety and efficiency of air transport operations in the region by establishing a regional core of highly qualified safety inspectors; to enhance the individual oversight capability of each participating State by providing on-site training of national inspectors; and to assist States with safety oversight activities as required. This project, which began in 1998 with an expected initial duration of five years, has been extended to 2012.

***Project achievements***

The programme achieved most of the objectives targeted for 2007 planned by the Steering Committee. The programme was expanded to include new objectives developed for Phase III from 2007 to 2012. A manual containing institutional framework and administrative procedures was developed and adopted in furtherance of this activity. In keeping with the global aviation safety plan (GASP) principles, Member States were encouraged to establish National Aviation Safety Teams (NASTs) to systematically address issues affecting civil aviation safety. Safety enhancements recommended by the Commercial Aviation Safety Team (CAST) and the European Joint Strategic Safety Initiative (ESSI) were approved for implementation in the region and action is under way for national implementation of these recommendations through the NASTs. Since the inception of this programme, over 6 100 personnel from both the regulatory authorities and industry received training, of which 650 in the current year, through 235 seminars or other training activities, with the support of various donors. Training and guidance material was developed for use by regulatory authorities and industry personnel and distributed among Member States. More than 1 100 man-days of technical assistance were provided to the Member States on site.

**Cooperative Development of Operational Safety and Continuing Airworthiness Project — Southeast 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, which is executed by a Trust Fund provided by the participating States, with in-kind and funding support from the Federal Aviation Administration (FAA), Airbus, the Boeing Company, the Directorate General of Civil Aviation (DGCA) France and the European Aviation Safety Agency (EASA). The objectives are to enhance the safety and efficiency of air transport operations in the subregions; 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 to establish a regional aviation safety team to implement globally developed solutions for safety concerns. This project, which began in 2001, has been extended through June 2011.

***Project achievements***

Draft airworthiness regulations for Cambodia were updated in accordance with ICAO SARPs and new primary aviation legislation is expected to go into force possibly before the end of the year. Seminars on these draft regulations were



provided to Cambodia air operators and Civil Aviation Authority staff. Four hundred and eighteen participants from COSCAP-SEA States received classroom and on-the-job training in airworthiness surveillance, audit and inspection procedures, air operator certification, extended twin-engine operations (ETOPS) maintenance, reliability monitoring, maintenance, human factors, approved maintenance organization (AMO) certification, maintenance programme development, minimum equipment list (MEL) approval, aerodrome safety management systems and slippery runways. A grant from the International Financial Facility for Aviation Safety (IFFAS), was utilized to assist in the development of airworthiness in Cambodia, Indonesia, Lao People's Democratic Republic, Myanmar, Philippines, Thailand, and Viet Nam; Brunei Darussalam and Timor-Leste joined the programme in 2007.

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

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

The objective of this cooperative project, funded by China, the Democratic People's Republic of Korea, Mongolia and the Republic of Korea, is to enhance the safety and efficiency of air transport operations in the region. In-kind and funding support is provided by the Federal Aviation Administration (FAA), European Aviation Safety Agency (EASA), Airbus Industries, the Boeing Company, Bombardier and the Directorate General of Civil Aviation (DGCA) France. COSCAP-NA is a dedicated forum for the promotion of dialogue, coordination and cooperation in matters related to flight safety among the well-developed and smaller participating civil aviation administrations, as well as for fostering an environment for the harmonization of, and advancement in, safety oversight policies, procedures and regulations. It provides an efficient and cost-effective method for the inspection and certification of operators, aircraft and training establishments and for the training of a large number of safety oversight personnel. States are also able to promote accident prevention through the establishment and supervision of the North Asia Regional Aviation Safety Team (NARAST) as proposed by the ICAO Global Aviation Safety Plan (GASP). This project, which began in 2003 with an expected duration of five years, has been extended through 2012.

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

COSCAP-NA issued guidance material, bulletins and advisory circulars and provided workshops to assist participant States in the implementation of the NARAST recommendations. An Implementation Status Report System was developed to track the implementation of the recommendations. The seventh meeting of the NARAST was conducted in November. The Steering Committee assigned high priority to the training of national inspectors in the subregion. Air operators and service providers were also invited to send participants to the training programmes. Since the programme was established in February 2003,

83 courses/seminars/workshops were provided to 2 460 participants, of which 76 received training in 2007. A number of Safety Management System (SMS) programmes were organized to support the understanding and implementation of SMS related to aircraft operations, air traffic management (ATM) and aerodromes. The COSCAP-NA programme continued to assist Member States with the implementation of ICAO SARPs.

### **Cooperative Arrangement for Preventing the Spread of Communicable Diseases through Air Travel (CAPSCA)**

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

The project, funded by the Civil Aviation Administration and Airport Authorities in participating States and Special Administrative Regions, including China (Hong Kong SAR and Macao SAR), Indonesia, Malaysia, Nepal, Philippines, Singapore and Thailand, aims at reducing the risk of spreading Avian Influenza and similar communicable diseases by air travellers through cooperative arrangements between the participating States, administrations and airports. This would be achieved initially by the application and implementation of ICAO guidelines for preventing the spread of Avian Influenza at major international airports. An ICAO Expert, provided through the project, will visit participating airports to ensure the guidelines are adhered to and fully implemented, as well as to train personnel from participating civil aviation and airport authorities and airlines. It is anticipated that this project will be extended as additional States join the project. This project began in September 2006 and, through a grant provided by the United Nations Central Fund for Influenza Action, has been extended through 2008.

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

Presentations on CAPSCA were made at an informal briefing to the ICAO Council, the United Nations World Tourism Organization (UNWTO) meeting in Cairo, the 36th session of the ICAO Assembly and at the 44th DGCA-Asia Pacific meeting in China. International Airports of Singapore, China (Hong Kong SAR and Macao SAR) and Thailand were evaluated under the CAPSCA programme. The 1st Steering Committee Meeting was held in August and the 1st Regional Aviation Medicine Team (RAMT), in October. The programme continued to prepare for the evaluation of international airports of other participant States, for putting into place a harmonized pandemic preparedness plan for the aviation sector as well as for training and assisting, as required, in the implementation of the guidelines developed in 2006 on the prevention of spread of communicable diseases of public health concern.



## 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, Qatar, the United Arab Emirates and Yemen, 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 and for training aviation security personnel. This project commenced in January 2006 with an expected duration of five years.

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

Aiming at a common system of regulations, the project's priority continued to be the development of draft harmonized regulations on operations, airworthiness and aviation security based on the European model where appropriate, and the training of regional inspectors. Model national civil aviation security programmes, incorporating ICAO SARPs and enhanced security measures and procedures, were drafted in consultation with the national administrations. Dangerous goods and accident/incident investigation manuals were also developed through the project.

### **Development of Operational Safety and Continuing Airworthiness in the 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, Tajikistan, Turkmenistan and Uzbekistan), implemented within the framework of the fund established by the CIS, Airbus, the Boeing Company, General Electric, the European Commission (EC), the Ilyushin Aviation Complex 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 Interstate Aviation Committee; provide assistance in overcoming deficiencies; provide training to national inspectors; and harmonize national aeronautical legislation as may be required. The project began in 2001 and has an expected duration of six years.

***Project achievements***

Since the start of project activities, 25 international seminars, conferences, and coordination meetings have been held and over 1 500 inspectors and experts from aviation administrations in the region have received training. With support from the Boeing Company and Airbus, work continued in the development of a comprehensive system of aviation regulations, to be introduced progressively in the national legislations of States. An operations manual for airlines was finalized, while the development of continuing airworthiness regulations is ongoing. The first stage in the establishment of the Civil Aviation Training Centre (CATC) for A-320 Airline Transport Pilots at the St. Petersburg State University of Civil Aviation (SPSCIU) was accomplished. Flight Safety Inspectors Training Courses were organized at the IAC Training/Advisory Centre, in coordination with and financially supported by IFFAS. Over 100 flight operations and airworthiness inspectors and experts from Kazakhstan, Moldova, Russian Federation, Tajikistan, Turkmenistan and Uzbekistan took part in this training programme. Training on aircraft accident investigation was carried out by experts of the IAC Aircraft Accident Investigation Commission covering flight safety analyses of pilot errors, aeronautical equipment failures and human factors. Legal issues were also discussed on the basis of ICAO SARPs.

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