



International Civil Aviation Organization

ICAO South American Regional Office

Thirteenth Meeting of the Civil Aviation Authorities of the SAM Region (RAAC/13)

(Bogota, Colombia, 4 – 6 December 2013)

RAAC/13-WP/03

Revised

28/11/13

Agenda Item 2: Global and regional civil aviation requirements and challenges

a) Forecasts of global and regional air traffic growth and human resource and training requirements

(Presented by the Secretariat)

SUMMARY	
This working paper (WP) presents the Meeting with information related with the global air transport outlook to 2030, and trends to 2040.	
Reference:	
<ul style="list-style-type: none">ICAO Circular 333 “Global Air Transport Outlook to 2030 and trends to 2040.	
ICAO Strategic Objectives:	A – Safety C - Environmental Protection and Sustainable Development of Air Transport

1. Introduction

1.1 In accordance with the ICAO Circular 333 “Global Air Transport Outlook to 2030 and trends to 2040”, for the period 2011-2030, world economic growth is expected to remain at an average annual rate of 4.0 per cent in real terms. World scheduled passenger traffic measured in terms of Revenue Passenger- Kilometres (RPK) is forecast to increase at a “most likely” average annual rate of 4.6 per cent. International and domestic traffic in 2030 are expected to be 2.6 times and 2.3 times that of 2010, respectively.

1.2 Airlines in the Latin America and the Caribbean are expected to experience growth in **passenger traffic at 6.1 per cent per year**. Aircraft **movements**, as measured by the number of aircraft departures, are expected to grow by **3.6 per cent per year**.

1.3 World scheduled air cargo traffic measured in terms of Freight Tonne-Kilometres (FTK) is forecast to increase at a “most likely” average annual rate of 5.3 per cent. By 2030, world scheduled air cargo traffic is expected to be 2.8 times that of the 2010 figure. Airlines of Latin America and the Caribbean, are expected to experience the growth in air **cargo traffic at 5.7 per cent per year**.

2. Discussion

2.1 Many countries in Latin America are expected to experience strong and sustained growth. Population that in the past did not use air transport will become increasingly important, and will have young and productive labour forces in the 2011–2030 period.

2.2 High economic growth will result as resources are shifted from the low productivity agriculture sector to high productivity manufacturing. This will generate decades of supra-normal growth. Many economies that previously saw slow growth can expect a sustained expansion.

2.3 The emerging economies will assume growing leadership roles in technology, finance, manufacturing, science and culture.

2.4 The structure of the airline industry will continue to change in three ways:

- a) Through corporate mergers;
- b) Through divestitures, outsourcing and spin-offs; and
- c) Through strategic alliances.

2.5 ICAO's 2011–2030 forecast expects a 4.6 per cent annual average increase in commercial aviation RPKs. By 2030, total traffic will be 2.5 times that of 2010. Many airports already have problems with groundside and airside congestion. Some suffer from chronic flight delays while others impose some form of rationing. The anticipated growth will exacerbate these problems.

2.6 Several cities in South America have constructed new airports in the last three decades. In other parts of the world, high land prices, legal obstacles, environmental concerns and high capital costs make it difficult to build greenfield airports. Even building new runways can be difficult. Community groups seek to impose curfews and operations caps on many airports around the world.

2.7 There is much the industry can do to optimize its use of airport capacity. Airlines can use larger aircraft or reschedule their flights. Modern pricing/revenue management techniques allow carriers to shift demand away from peak times or encourage passengers to use less congested airports. Airlines can also transfer connecting activity from highly congested airports over to large, underutilized facilities.

2.8 Most large metropolitan areas have several airports able to support commercial services. Personal habit is very strong, and passengers often prefer using one airport even if it becomes highly congested. Airlines are often reluctant to serve a second airport and bear the costs of duplicate.

Latin America and the Caribbean

2.9 The region is enjoying increasing political stability and the emergence of Brazil as a major industrial and economic power will help boost traffic growth. Other nations are currently addressing political and economic concerns, but still have considerable potential for growth in the medium term.

2.10 Total Latin America and the Caribbean passenger traffic, per group of routes, grew annually by 6.2 per cent between 1995 and 2010. Forecasts nevertheless call for a slightly lower but healthy annual growth rate of **5.9 per cent up to 2030**.

2.11 By 2030, Latin America and the Caribbean international markets are expected to account for 74 per cent of the total passenger traffic from, to and within the region, which will mean a decrease of three percentage points compared to 2010.

2.12 Air passenger traffic on domestic Latin America routes is expected to grow at an average rate of 6.5 per cent annually between 2011–2030. Brazil and Mexico represent the most important domestic markets in this region. Argentina, Colombia and Venezuela (Bolivarian Republic of) also show long-term potential.

2.13 Rising personal incomes and low-cost carriers (LCC) will drive future traffic increases. Belly-cargo Latin America will become the world's fifth largest domestic market. Further, it will record the world's largest growth of domestic markets at approximately 7.9 per cent.

2.14 In terms of aircraft **movements** by airlines of registration, airlines registered in North America and Africa will grow relatively slowly up to 2030 at an AAGR of 2.3 and 2.5 per cent, respectively. The Asia/Pacific region will experience the strongest growth of 5.7 per cent over the next two decades. The Middle East will also see robust growth of 4.8 per cent. Europe and Latin America will experience growth below the average but above or **equal to 3.0 per cent**.

2.15 The expected growth in the region also represents important challenges for aviation safety and efficiency. The major sporting events will also represent additional aviation safety risks and efficiency improvements needs, as infrastructure reach its saturation peaks and traffic increases. SAM region shows constant improving on safety performance; in the last 8 years, 80% of the accidents are with aircraft of less than 27,000 Kg of MTOW. Runway related accidents are the most common category of accidents accounting for more than 40%.

Personnel shortages

Pilots

2.16 The most likely scenario, according to ICAO forecasts, is that airlines around the world will need to train an average of 52 506 pilots a year between 2010 and 2030, while the industry is only able to train 44 360 pilots a year.

2.17 As a result, airlines will need to be more active in their staff training. They may need to expand the use of ab initio instruction. Flying schools will have excellent growth opportunities.

2.18 In Latin America Training capacities (1 945) are relatively weak and annual pilot requirements (7 849) are high compared to the existing pilot population of 24 065, i.e. almost one-third of the 2010 pilot population needs to be trained each year until 2030. The result is an annual shortage of -5 904 pilots.

Maintenance personnel

2.19 Annual maintenance personnel requirements (6 881) are relatively high compared to the existing population of 21 704, i.e. around 24 per cent of the 2010 population needs to be trained each year. Training capacities (1 315) are much too weak to meet the expected demand. The result is an annual shortage of -5 566.

Air traffic controllers

2.20 Latin America is stable in relative terms, needing, 10 828 ATCOs in 2030.

2.21 At the global level, the forecast shows an annual number of new ATCOs required of 8 718 and a shortage of -1 978. Latin America is expected to have small surpluses in training capabilities of air traffic controllers.

ICAO Next Generation of Aviation Professionals

2.22 The ICAO Next Generation of Aviation Professionals (NGAP) initiatives were launched to ensure that enough qualified and competent aviation professionals are available to operate, manage and maintain the future international air transport system. This is critical as a large contingent of the current generation of aviation professionals will retire, access to affordable training and education is increasingly problematic, and aviation competes with other industry sectors for highly skilled professionals.

2.23 The lack of harmonized competencies in some aviation disciplines and a lack of awareness by the “next generation” of the types of aviation jobs available further compound the problem.

2.24 In 2009, ICAO established the NGAP Taskforce, consisting of 29 representatives from industry, education and training providers, regulatory bodies and international organizations. Near-term objectives are to: inventory human resources planning data; identify and support initiatives to reach out to the next generation; and, find ways to harmonize training regulations. The Task Force will also support initiatives relating to the next generation of aviation professionals.

2.25 As a result of this Task Force, ICAO Annex 1 now incorporates standards for competence based-pilot training that provides an option for high quality training and a more direct path to the cockpit of a commercial airliner. The Latin American Regulation LAR 61 already includes the provisions for Competence based-pilot training.

2.26 The following strategies are recommended for States and industry to mitigate the shortage of aviation personnel:

States

- ☐ Attract
 - Establish national campaign for NGAP
 - Establish and run national human resource **planning** capability
- ☐ Train
 - Establish and run national human resource **training** capability
 - Partner with industry to meet their training needs
 - Implement Competency-Based approaches
- ☐ Retain
 - Establish and run national human resource **retention** capability
 - Understand lifestyle issues of next generation
 - Actively address remuneration
 - Facilitate portability of competencies

Industry

- ☐ Attract
 - Forecast human resource needs
 - Run outreach campaigns
 - Collaborate in local initiatives with school

☐ Train

- Industry to facilitate funding of training as well as training itself.
- Implement Competency-based approaches

☐ Retain

- Actively address remuneration
- Understand lifestyle issues of next generation
- Facilitate the import of competencies

3. **Action suggested**

3.1 The Meeting is invited to:

- a) Take note on the forecast growth of the Region;
- b) Take note on the challenges ahead on safety and efficiency associated to the air transport growth; and
- c) Take note on the expected shortages of aviation personnel for the region and on the recommended strategies for mitigating the impact on aviation personnel shortages.

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