

# ICAO TECHNICAL COOPERATION REVIEW

NEWS AND FEATURES ON ICAO'S TECHNICAL COOPERATION PROJECTS AND PROGRAMMES - VOL.02 - NO.01

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**ICAO TECHNICAL COOPERATION REVIEW**  
VOLUME 2, NUMBER 1, 2016

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The *Technical Cooperation Review* encourages submissions from interested individuals, organizations and States wishing to share updates, perspectives or analysis related to global civil aviation. For further information on submission deadlines and planned issue topics for future editions of the *Technical Cooperation Review*, please contact Alexandra Paré, Content Coordinator & Project Manager at: [apare@icao.int](mailto:apare@icao.int).

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The publishers extend their thanks to the companies, organizations and photographers who graciously supplied photographs for this issue.

**Published by**  
International Civil Aviation Organization (ICAO)  
999 Robert-Bourassa Boulevard  
Montréal, Québec Canada H3C 5H7

The objective of the *ICAO Technical Cooperation Review* is to provide a comprehensive account of Technical Cooperation new developments, trends, innovations and applications in the field to the ICAO Member States and the international aeronautical community.

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Printed by ICAO

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# ICAO Council

Information accurate at time of printing

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**Secretary:** Mr. Stephen Creamer

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Eastern and Southern African (ESAF) Office, Nairobi

Asia and Pacific (APAC) Regional Sub-Office, Beijing

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# FOREWORD BY MR. IVAN GALAN, DIRECTOR, TECHNICAL COOPERATION BUREAU, ICAO

✈ For those of us in the field of Air Transport and Civil Aviation, new airline start-ups, airport expansions, new construction and concessions negotiations, increased passenger loads, and the implementation of new technologies and development of new capacities among air traffic service providers are daily occurrences on a global scale. This is a real representation of how dynamic air transport is and, at the same time, how challenging this sector has become. Civil Aviation Authorities, Air Navigation Services Providers, Airport Operators, Immigration Authorities and Customs Authorities are facing the problem of how to cope with the dynamic growth of air transport.

Considering this and taking into account that air transport, in addition to being the safest means of transportation, has become a true catalyst for economic and social development, States may have the perfect equation to foster development, or the perfect storm of lagging economic competitiveness. The formula for success may be as obvious as a Civil Aviation Master Plan, an Airport Master Plan, a well-structured Civil Aviation Authority, etc. Given the rapid pace of change, doing nothing is not an option.

Since its establishment, the International Civil Aviation Organization (ICAO) has continuously evolved to accommodate technological advancements, political developments and the exponential growth of international air traffic. In this regard, ICAO's Technical Cooperation Programme is an efficient and effective tool available to all States, institutions, organizations, airports, Air Navigation Service Providers, etc., to help them develop their systems and cope with their needs and challenges.

Within its United Nations mandate, ICAO provides assistance to civil aviation projects, particularly when these projects are necessary to the provision of vital air transport infrastructure and/or the economic development of a State, in accordance with national development priorities.

The Technical Cooperation Bureau (TCB) serves as ICAO's main operational tool to implement the *No Country Left Behind* (NCLB) initiative and to assist States with the effective implementation of ICAO Standards and Recommended Practices (SARPs) and Air Navigation Plans (ANPs), as well as in the development of their civil aviation framework and programmes, including infrastructure, equipment and capacity-building.

In accordance with the role established by the ICAO Assembly, the Technical Cooperation Programme is also one of the main instruments to assist States in remedying their deficiencies in the civil aviation field (A39-16, Appendix A, Resolving Clause 4). This is why TCB also currently provides technical assistance to States to rectify deficiencies primarily identified during ICAO audits, with Regular Budget resources allocated for this purpose and/or voluntary contributions to ICAO's Safety Fund (SAFE), the Aviation Security (AVSEC) Mechanism and the Environment Fund.



Another programme recently created by ICAO is the ICAO *Programme for Aviation Volunteers* (IPAV), which is also being managed by TCB. Through the IPAV, TCB provides short term assistance to States in civil aviation matters, at a lower cost or no cost at all (as determined through analysis on a case by case basis). A roster of IPAV experts has been created and an IPAV Voluntary Fund has already received a number of donations.

Today, more than 130 States benefit from the technical assistance, technical cooperation and IPAV services provided by TCB in all regions across the globe. Our aim is to increase this number by providing outreach to those countries in need of assistance. In this respect, NCLB is a powerful initiative that motivates all of us to continue working in this direction.

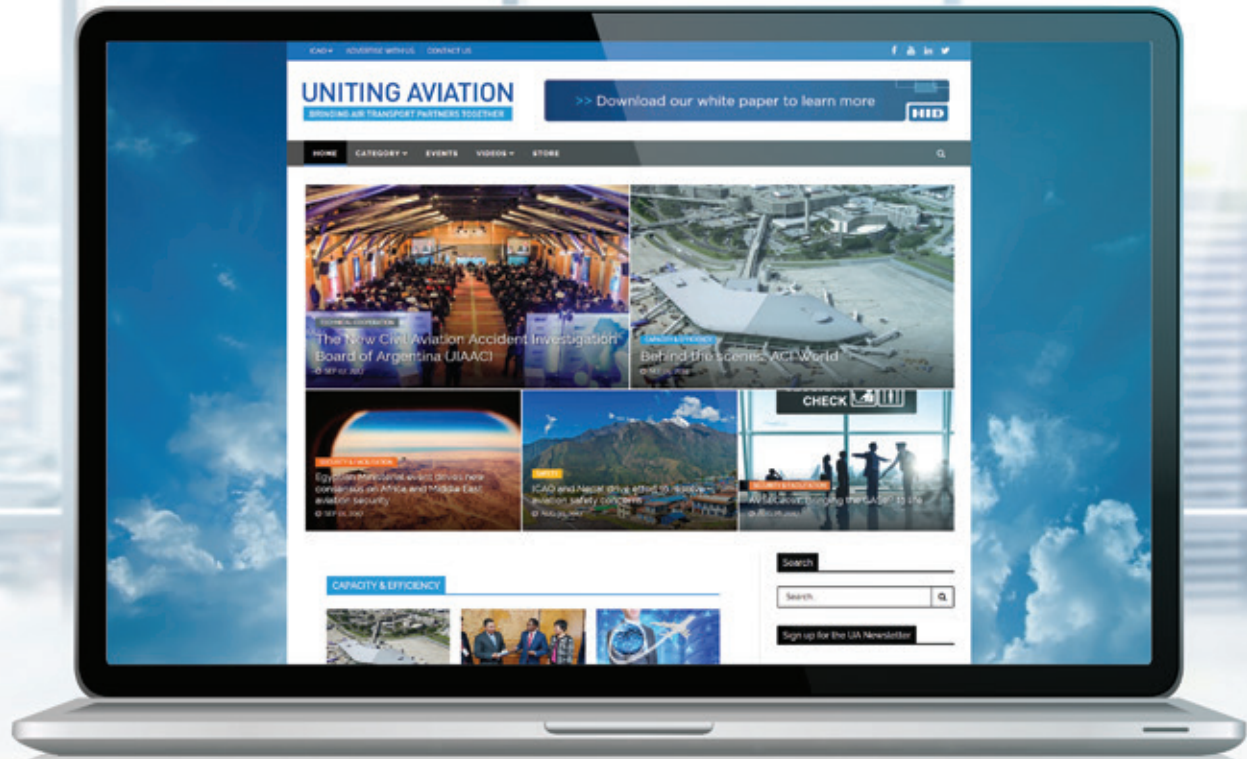
The aim of this publication is to provide you with information and experiences from different parts of the world about TCB projects and how they are or have been able to assist States/Organizations with the development of their civil aviation systems, in areas of safety, infrastructure, CNS/ATM, capacity-building, etc. I hope this edition of our Review will motivate you to continue making use of TCB's services or to initiate a Technical Cooperation Programme project if you have not done so before.

Please note that TCB is organizing the second Global Aviation Cooperation Symposium (GACS/2) which will take place in Athens from 11 to 13 October 2017. All of you are cordially invited to participate. An article with more details is provided in this journal. We look forward to meeting you in Athens. ■



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# PANAMA'S TOCUMEN INTERNATIONAL AIRPORT EXECUTES ITS MASTER PLAN WITH ASSISTANCE FROM ICAO'S TCB



## RENE VIOVY

He has over 27 years of experience in the aviation field, in Search and Rescue (SAR) as Head of the Search and Rescue Development and Planning Bureau in Chile, Head of the Mission Control Centre (CHMCC) and a Member of the International COSPAS-SARSAT Programme Council. In June 2013, he joined the ICAO Technical Cooperation Bureau as Technical Consultant with the Procurement Section.

Fixed wing IFR pilot and holds a MBA degree in Business Administration



Tocumen International Airport is the main point of entry to Panama and a major pillar of Panama's socioeconomic development, generating a multiplier effect on the economy of the country and the region. The airport is operated by AITSA, a stock corporation founded in 2003 with nominal shares owned 100% by the State of Panama. AITSA operates five airports located in various provinces of Panama.

Tocumen International Airport is a hub or "connection centre airport" using an airport business model in which various airlines set up a connection or flight distribution centre around a geographical hub, based on the following main principles:

- connectivity to and from secondary cities;
- punctual, on-time service;
- integrated terminals and efficient infrastructure; and
- logistical integration with added value and global services.

## ENRIQUE JIMENEZ INTERNATIONAL AIRPORT – COLÓN

Currently maintained without scheduled operations, but various development options are under review.



## TOCUMEN INTERNATIONAL AIRPORT – PANAMA CITY



## PANAMA PACIFICO INTERNATIONAL AIRPORT - HOWARD

### NO. OF PASSENGERS

2014	2016
30,086	131,930
300% INCREASE	



## ENRIQUE MALEK INTERNATIONAL AIRPORT – CHIRIQUÍ

### NO. OF PASSENGERS

2014	2016
150,000	323,456
100% INCREASE	



## SCARLETT MARTINEZ INTERNATIONAL AIRPORT – COCLÉ

### NO. OF PASSENGERS

2014	2016
11,736	63,728
400% INCREASE	

# TOCUMEN OFFERS THE FOLLOWING UNIQUE, INTERNATIONALLY RECOGNIZED STRATEGIC BENEFITS:

## 01 | COMPETITIVENESS

Panama has more connections to international destinations than any other Latin American country. Tocumen International Airport is a driver of growth for the Panamanian economy and a source of the country's development. It is the third largest airport for international passengers in Latin America and the largest in Central America.

PANAMA	83
MEXICO	58
SAO PAULO (GRU)	53
LIMA	51
BOGOTA	46
BUENOS AIRES (EZE)	45
SANTIAGO DE CHILE	43
RIO DE JANEIRO	26
MONTEVIDEO	15
MEDELLIN	13
CARTAGENA	12
QUITO	12
CALI	9
SAN JOSE	8

Of the 83 destinations, 74 routes have more than one daily connection.

## 02 | QUALITY OF SERVICE

In seeking to continually improve the passenger experience, Tocumen Airport has joined Airports Council International's (ACI) world-renowned Airport Service Quality (ASQ) benchmarking programme measuring passengers' satisfaction using research tools and management information. The programme is carried out quarterly and enables passenger feedback to be analyzed in terms of different aspects so that similar parameters can be compared in three categories:

- (1) total for all airports in the programme;
  - (2) airports serving a similar number of passengers; and
  - (3) airports in a region.
- The purpose is to take the necessary corrective actions and improve the passenger experience.



## 03 | FINANCIAL SUSTAINABILITY

AITSA has built a robust business model with a solid financial structure and sustainable financial stability. As part of this process, and in order to secure the funds necessary to develop its investment portfolio, Tocumen has issued bonds, earning a rating of BBB (outlook stable) in the Standard and Poor's and Fitch Ratings.

## 04 | CONNECTIVITY AND ADVANTAGEOUS LOCATION

5 ½-hour flight time to northern destinations as far away as Toronto, and a 7-hour flight time to southern destinations as distant as Buenos Aires on popular and profitable aircraft such as the Boeing 737-800/900.

Currently ranked third in terms of direct departure gates to Latin America:

- Mexico: 56
- Sao Paulo: 45
- Panama City: 34 (+20 with T2)
- Rio de Janeiro: 31 (+26 under construction)
- Brasilia: 29
- Bogota: 27 (+12 under construction)

- Natural transit link
- Located at sea level
  - Fuel efficiency
- Favourable climate
  - Minimal interruptions

TORONTO

5 ½-hour flight time

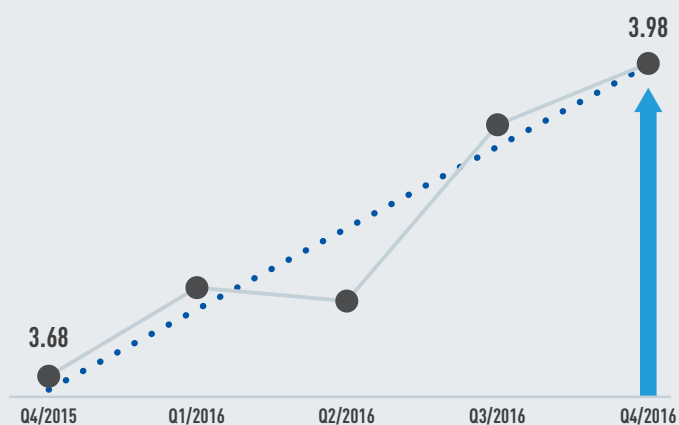
7-hour flight time

BUENOS AIRES



## ECONOMIC IMPACT

Tocumen Airport and tourism account for 20.5% of the total annual domestic product of goods and services (gross production value) and 17% of national employment.



The airport infrastructures have a very positive effect on the economy of the various regions of Panama. Beyond being a port of entry for tourists, business people and investors, Tocumen Airport creates many jobs for the community as a product of the chain produced by industry clusters. The resulting economic activity can be grouped into the following six categories: airport operations, air transport, business services, related industrial activity, large-scale improvement programmes, and tourism.

Tocumen Airport creates more than direct income and jobs; it also has indirect effects. This is why the airport's true impact on Panama's economy has to be measured from a holistic point of view.

In measuring air transport's economic impact, two elements must be taken into account. The first is the Tocumen Cluster (which includes the activities of Tocumen Airport, its concessions, associated companies and governmental institutions, as well as the Multimodal Area currently under development), and the other is tourism, since Tocumen Airport is the main gateway to the country.

Key statistics for Tocumen International Airport include:

- 14.7 million passengers handled per year;
- over 164 thousand tonnes of cargo handled each year;
- 40 airlines operate out of AITSA (23 commercial passenger airlines and 17 cargo carriers);
- over 11 million pieces of luggage are processed by the airport's baggage handling system;
- the months with the greatest passenger flows are January, July and December;
- each week, over 2700 flights operate out of AITSA, which translates to over 145,000 aircraft movements per year;
- July 17th is the day with the greatest amount of passenger traffic, at a total of almost 49,000 passengers;
- in 2016, passenger traffic increased by 9.7% over the previous period, exceeding forecasts for the region; and
- Tocumen Airport has direct connections to 83 destinations.

## DESTINATIONS GROWING FASTEST IN TERMS OF PASSENGER NUMBERS:

DAVID	51%
VALENCIA (VENEZUELA)	42%
CARTAGENA	40%
WASHINGTON DC	35%
SANTA CLARA	32%
PARIS	31%
CARACAS	31%
ASUNCIÓN	30%
SAN PEDRO SULA	21%
SAO PAULO	20%

## COUNTRIES THAT MAKE GREATEST USE OF THE AIRPORT:

1. UNITED STATES
2. COLOMBIA
3. MEXICO
4. BRAZIL
5. VENEZUELA
6. COSTA RICA
7. ECUADOR
8. DOMINICAN REPUBLIC
9. CUBA
10. CHILE

## TOP DESTINATIONS BY NUMBER OF PASSENGERS:

1. BOGOTA
2. SAN JOSE
3. MIAMI
4. CARACAS
5. HAVANA
6. CANCUN
7. MEXICO CITY
8. SANTIAGO
9. LIMA
10. SAO PAULO



### TOCUMEN INVESTS TO STAY COMPETITIVE WITH THE HELP OF TCB.

Tocumen Airport has a Master Plan with a 30-year horizon, enabling it to ensure the airport's competitiveness by identifying the investments required in view of demand and growth.

In order to guarantee sustainable, successful growth, airport planning will consider factors such as potential demand, infrastructure expansion requirements, the availability of airport land, and environmental and economic studies.

The average growth in passenger numbers has been 10%. In order to keep pace with this demand, the airport has an aggressive plan of investments and projects in which the Technical Cooperation Bureau (TCB) of the International Civil Aviation Organization (ICAO)

is playing an important role in implementation. Some of these projects include:

- implementation of a Wi-Fi service for use by passengers;
- installation of check-in kiosks;
- installation of immigration kiosks;
- implementation of a new flight information system (FIDS/GIDS/BIDS);
- improvements in the central baggage handling system;
- implementation of ACDM (Airport Collaborative Decision Making);
- acquisition of security equipment (scanners, metal detectors, explosives trace detectors);
- implementation of a new CCTV system and Safety Management System (SMS);
- expansion of the current aircraft fuel system and its interconnectedness with the new terminal; and
- project implementation in operational safety areas such as runway and taxiway repairs and the implementation of means to mitigate hazards caused by the ingestion of birds into the engines of aircraft operating in and out of AITSA.

Investment is focused in the following three major project areas:

- regional airport projects;
- projects to enhance the current terminal (T1); and
- projects in the Cargo/Logistics Zone.

### TERMINAL B

Construction began in 2013 on a new passenger terminal, initially called South Terminal, now known as Terminal B. This terminal is needed to accommodate the high level of demand and passenger movement.

The new terminal was designed by British architect Norman Foster and the company Panameña Mellol & Mellol. It will have 20 new gates. The terminal's surface area will cover over 85,000 m<sup>2</sup>, with 8000 m<sup>2</sup> devoted to commercial activities.

Construction is now already over 70% complete, and operations in this new terminal are scheduled to begin in March 2018.

### NEW MULTIMODAL AREA

This area is another of the challenges receiving implementation support from the International Civil Aviation Organization's Technical Cooperation Bureau (TCB). As a result of the increased demand for cargo transport by air, Tocumen Airport's management plans to

### CHRONOLOGY OF THE TOCUMEN INTERNATIONAL AIRPORT

- 1974** ○ June 1st, the first passenger terminal (the present-day cargo terminal) opens.
- 1978** ○ August 15th, the present passenger terminal (T1) opens.
- 1992** ○ COPA Airlines establishes its hub here thanks to the airport's excellent connectivity.
- 2003** ○ Tocumen International Airport S.A. (stock company) is founded.
- 2004** ○ Renovation of the passenger terminal (T1).
- 2012** ○ The North Concourse opens in Terminal T1.
- 2013** ○ Construction of the new Terminal T2 begins.
- 2014** ○ Tocumen International Airport, S.A. takes over the management of 4 Panamanian regional airports.
- 2015** ○ The Master Plan is updated with a projected timeline of 20 years.
- 2016** ○ The business model is approved for the project to create the first state-run Free Trade Zone, called the Tocumen Airport Logistics Zone.





create a Multimodal Area that includes a Free Trade Logistics Zone, and to modernize the airport’s current cargo terminal.

In terms of cargo movement, Tocumen Airport generates considerable trade volumes, thus translating into direct and indirect job creation.

On the international markets, the following products account for 72% by weight of commercial exchange by air and almost 68% of imports:

- perishables
- spare parts
- pharmaceuticals
- hi-tech components
- e-commerce

The new Multimodal Area, with a total surface area of 35 hectares, will be comprised of a Cargo Terminal and a Logistics Zone with the characteristics listed above.

#### AITSA'S CHALLENGES OVER THE NEAR TERM

AITSA faces a number of challenges in the coming months and years. They include:

- successful opening of Terminal B by the scheduled date;
- efficiency of Terminal A's operations and its integration with Terminal B;
- implementation of the Multimodal Area;
- profitability of the regional airports; and
- acquisition of the land required to ensure sustainable growth.

Given the invaluable assistance of ICAO's TCB, Panama is confident that it can execute its Master Plan on time and within budget parameters. ■

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Today we are evolving to become a social enterprise, with a commitment to reinvest a substantial part of any profit we make back into the global aviation community – and where it is needed most. By making positive advancements in global aviation standards happen today, we can help secure the future of aviation and raise standards across the globe – protecting those that choose to fly as well as those that do not.

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# ICAO'S TCB CONTRIBUTES PIONEERING SUPPORT TO THE STATE'S SUCCESSFUL CIVIL AVIATION ENVIRONMENTAL PROTECTION PROGRAMME.



## CÉSAR VELARDE

*He is an International Civil Aviation Organization (ICAO) Senior Expert on Aviation and the Environment with special focus on bioenergy for the air transport sector. In October 2014 joined the ICAO Technical Cooperation Bureau as Project Coordinator based in Jakarta (Indonesia) providing technical support to the Indonesian Civil Aviation Authority (DGCA) for the Development and Implementation of Environmental Measures in Civil Aviation (INS13801 Project).*

*He holds an agronomist engineering degree from Madrid University. Prior to work in the air transport sector he spent most of his career in the environmental assessment of transport infrastructures and ecological restoration.*



As a vast archipelagic tropical country, Indonesia is one of the world's richest territories in terms of biodiversity, natural wonders and cultural heritage.

With a population of about 240 million people and a territory containing 17,508 islands, air transportation plays a major role in connecting the country's vast terrain and promoting the country's development.

The particular geography of Indonesia makes it especially vulnerable to global warming. Since the current and future growth of air traffic affects climate change, and given the long-standing cooperation between the Government of Indonesia and ICAO's Technical Cooperation Bureau (TCB), the Indonesian Directorate General of Civil Aviation (DGCA) decided in 2013 to promote an ambitious civil aviation environmental programme, with TCB's support, aimed at becoming a leading State in contributing to ICAO's Environmental Protection strategic objectives.

## INDONESIA'S ENVIRONMENTAL INITIATIVE

In October 2014, a pioneering 3-year environmental project was launched to assist the Indonesia DGCA in strengthening its organizational structure for sustainable development and implementation of the Indonesian State Action Plan for carbon emissions reduction in the aviation sector in close cooperation with national stakeholders. The project had four areas of focus: Alternative Fuels and Renewable Energy, Green Corridors, Green/Eco Airports and Market-based Measures.

The ultimate aim of this programme is to maintain the benefits of air transport growth (increased employment and a larger contribution to the national economy) while implementing an environmentally compatible policy framework. In so doing, Indonesia would become a significant contributor to the technical work of ICAO through its Committee on Aviation and Environmental Protection (CAEP).

TCB assisted the project by recruiting two senior aviation and environment experts (one national and one international) and additional local technical and administrative staff.

Now in its third year of implementation, the project's main accomplishments can be summarized as follows:



### **INDONESIA'S CONTRIBUTION TO ICAO'S ENVIRONMENTAL WORK AND INTERNATIONAL DISCUSSIONS.**

In March 2016, Indonesia's work on environmental protection was recognized by the ICAO Council when it approved its request to become a Member State of the ICAO CAEP (Indonesia had been an Observer for six years). DGCA is dedicating significant resources to CAEP work by co-chairing the Committee's Alternative Fuels Task Force (AFTF) and by participating in several other Working Groups and Task Forces.

Between 2014 and 2017 Indonesia has presented more than 15 Working and Information Papers to the CAEP and has also hosted several ICAO international meetings and environmental events including: the 2014 CAEP Steering Group Meeting, the 2015 International Green Aviation Conference (IGAC), the 2016 APAC Global Aviation Dialogues on MBMs (GLADs), a meeting of the CAEP MDG & FESG technical groups (2017) and the 2017 ICAO Regional Seminar on Action Plans and CORSIA for Asia and the Pacific. In July 2017, it will host the third edition of the biannual International Green Aviation Conference (IGAC).

### **STRENGTHENING OF THE DGCA ORGANIZATION AND DEVELOPMENT OF AN ENVIRONMENTAL MANAGEMENT SYSTEM AND HUMAN RESOURCES STRUCTURE.**

Environmental protection requires a long-term strategic vision because achieving measurable results requires preparation and time.

One of the essential preliminary steps for successful implementation of a State Action Plan on Air Transport Emissions Reductions is to create the internal governmental structure for its

management, review and follow-up and to provide the necessary human resources capacity-building. Being aware of this, DGCA Indonesia committed to creating an internal environmental structure and asked TCB to provide the necessary training to its officials and stakeholders.

TCB's support consisted of delivering more than 30 training activities including in-house training, internships with the ICAO Environmental Section, domestic thematic tutorials and workshops and participation in seven international training activities in four different countries.

An important additional step was the identification of DGCA's environmental duties and responsibilities and the development of an Environmental Management System (EMS), including provisions for monitoring, reporting and verification (MRV) and GHG emissions inventories as necessary elements for the implementation of the Indonesia CO<sub>2</sub> Emissions State Action Plan.

DGCA, with TCB's support, is currently establishing its EMS, including the following actions:

- A regulatory MRV-related applicable framework is being established.
- Different DGCA Directorates are developing the necessary provisions for data collection from airlines, airports and the national Air Navigation Service Provider (ANSP).
- An online IT tool is under development for data compilation and management and the establishment of an Indonesia Aviation Emissions Inventory System.
- The creation of a DGCA Environmental Unit will ensure permanent oversight, management and reporting.



# “Environmental protection requires a long-term strategic vision because achieving measurable results requires preparation and time.”

## **SUPPORT ON THE REVIEW, UPDATE AND IMPLEMENTATION OF THE INDONESIA STATE ACTION PLAN FOR GHG EMISSIONS REDUCTIONS IN AVIATION.**

ICAO Assembly Resolutions have encouraged Member States to submit voluntary action plans outlining respective policies and actions, and annual reporting on international aviation CO<sub>2</sub> emissions. The ICAO Environment Section has worked closely with Indonesia on the design of a basket of measures. DGCA presented its Plan in 2014.

As mentioned, achieving measurable results from implementation of the Action Plan will require time and is to be considered a long-term objective to which all government departments with related responsibilities and the related stakeholders are committed.

The role of TCB has been focused on reviewing, updating and assisting in the effective implementation of four areas of action: Renewable Energy, Green Corridors, Green/Eco Airports and Market-based Measures.

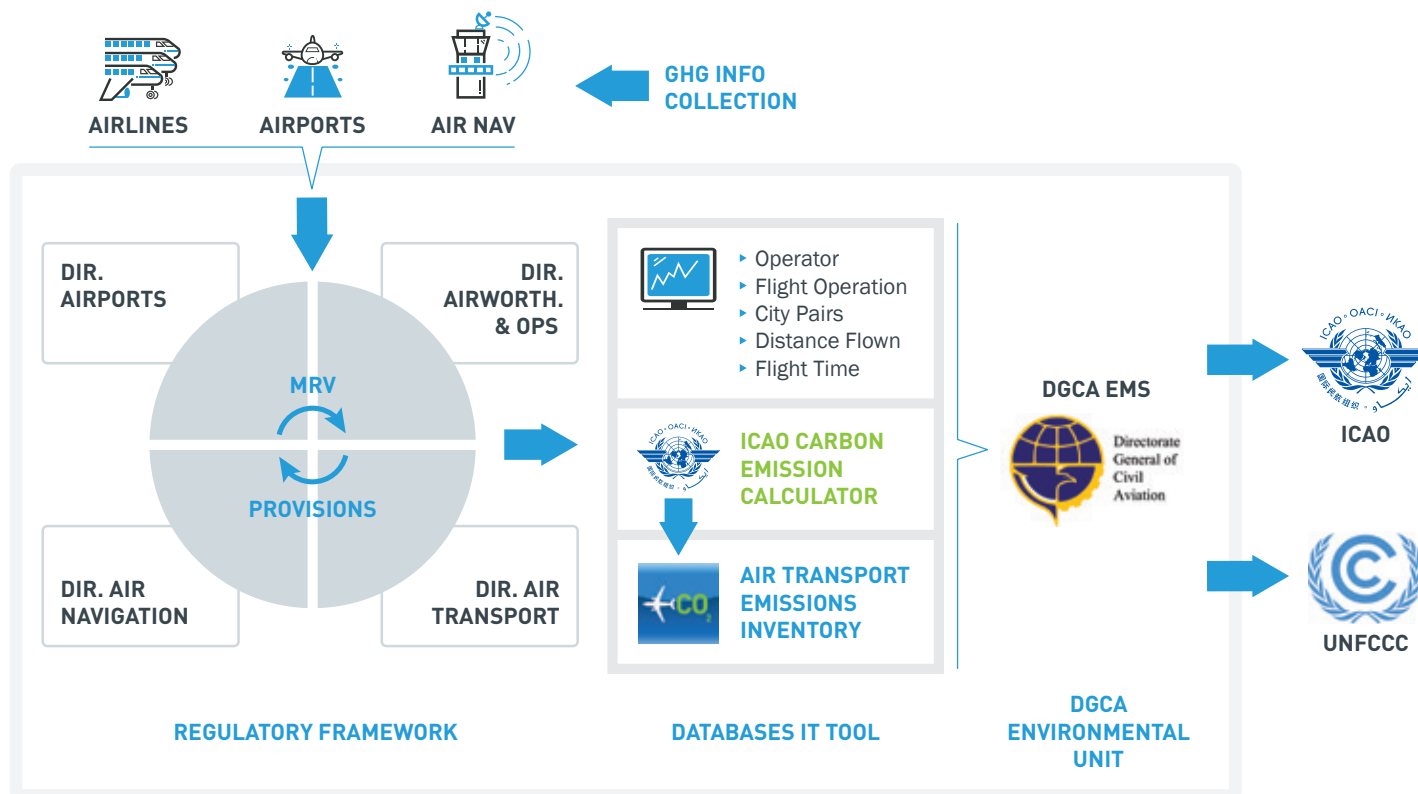
## **PROMOTION OF RENEWABLE ENERGY FOR AVIATION.**

Indonesia's Ministries of Transport and Energy created the “Aviation Biofuels and Renewable Energy Task Force” (ABRETF) in 2014 and established a regulatory framework aimed at promoting the use of biofuels and renewable energy in airports.

Fourteen ABRETF meetings have been held with national stakeholders. Indonesia is particularly involved in ICAO's technical work on Alternative Fuels. At the International Green Aviation Conference (IGAC) held in Bali in 2015, national and international experts reviewed the options for the introduction of alternative fuels and renewable energy.







From 2016 to 2020, Indonesia plans to install renewable power sources in fifty domestic and international airports with a total capacity of 7.5 MW. Solar-cell systems have been installed already at 39 airports. The Indonesia government is also planning to implement the utilization of wind and hydro energy to partially supply five international and five domestic airports.

#### ATM IMPROVEMENT AND GREEN/ECO AIRPORTS:

An area of significant progress achieved by the DGCA with TCB project support has been the implementation of Performance-based Navigation (PBN) as part of the Green Corridors and Green/Eco Airports implementation objectives.

In early 2016, an “Operations and PBN Working Group” was created with more than 50 local and international experts from all stakeholders involved. Five workshops have been held to identify implementation barriers and develop recommendations agreed upon with stakeholders on how to tackle them. New PBN approach procedures have been established by consensus at seven international airports, seven domestic airports and 26 small remote airports. One terminal PBN procedure and two new en-route procedures have also been published. Indonesia expects to achieve the ICAO objective of having PBN approach procedures in all international airports by the end of 2017.

#### MARKET-BASED MEASURES. THE ICAO CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION (CORSIA):

The ICAO 39th Assembly held in 2016 marked a historical milestone with the decision to implement a Global Market-based mechanism in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to tackle CO<sub>2</sub> emissions from international civil aviation beyond 2020 levels. This is the first time a particular sector has taken such a global initiative to reduce its GHG emissions.

Indonesia played a very active role in the discussions supporting this ICAO approach, and has volunteered to participate in its initial implementation phase in 2021. This constitutes a significant challenge for the DGCA because it will need to establish an internal structure to implement the ICAO Monitoring, Reporting and Verification (MRV) SARPs which will be issued in early 2018, beginning on 1 January 2019.

ICAO has also requested that all Member States establish their own CO<sub>2</sub> emissions units registries, or to arrange for participation in other registries, in accordance with the ICAO guidance. Supporting Indonesia to successfully achieve this global commitment is currently the main challenge for the TCB support programme for the implementation of environmental measures in civil aviation.



“This is the first time a particular sector has taken such a global initiative to reduce its GHG emissions.”

#### MEETING THE CHALLENGES GOING FORWARD

Environmental Protection is the ICAO strategic objective for which more development and support needs will arise in the upcoming years and one of the areas in which extensive knowledge transfer and information sharing is needed due to the innovative nature of the strategy.

The domestic and regulatory pressure resulting from increasing social demands in areas such as aviation noise, air quality around airports and climate change mitigation and adaptation will necessitate that many governments, especially in developing countries and emerging economies, establish the necessary internal structures and mobilize resources to tackle these new needs.

Building on Indonesia's successful government environmental programme for civil aviation with TCB support in the field, ICAO will continue to be the organization its Member States can turn to in order to address these new challenges. ■

# GLOBAL AVIATION COOPERATION SYMPOSIUM (GACS 2) TO BE HELD IN ATHENS

11 TO 13 OCTOBER 2017



**DANIEL SOUHAMI**

*He is a Field Operations Officer with ICAO's Technical Cooperation Bureau Project Development Unit. He works as a member of the team that develops all projects for TCB. He joined ICAO/TCB in 2001. His previous work experiences include the World Bank, the Canadian Trade Commissioner Service, as well as the private sector and academia.*



There is a need for increased technical cooperation and assistance across the full spectrum of civil aviation to achieve the goals of the ICAO *No Country Left Behind* initiative. In this respect, the vision of ICAO's Technical Cooperation Bureau (TCB) is to enable States to achieve high standards that benefit the economic and social areas impacted by air transport and the related civil aviation industries at the local, regional and national levels throughout the world.

Continuous improvement of aeronautical infrastructure and services leading to self-sufficiency in the aviation field will bring about better human, social and economic conditions. Based on decades of extensive global experience, TCB understands both the aspirations and difficulties faced by the developing world. The Bureau knows how to realize these hopes and overcome these problems.

TCB's priorities are to improve the operational safety, security, efficiency and reliability of national and international civil aviation and to contribute to the uniform implementation of ICAO's Standards and Recommended Practices (SARPs) throughout the world. With over six decades of experience, and drawing upon all of the technical expertise and knowledge available within ICAO, our mission is to provide unrivalled in-depth technological assistance to States in realizing their aviation projects.

## **GACS 1**

In the fall of 2014, TCB organized the first ever Global Aviation Cooperation Symposium (GACS). The theme of the original GACS was "Building Cooperation for the Future of Civil Aviation: Innovation, Growth and Technical Cooperation". The event was hosted at ICAO Headquarters and was attended by over 400 participants from around the globe. In addition, 35 industry and government sponsors & exhibitors contributed to the event's success.

The primary objective of the first GACS was to establish a forum covering the full spectrum of civil aviation so that States and other industry stakeholders could exchange information and perspectives on the challenges they faced. By adopting a holistic and comprehensive approach, the Symposium succeeded in offering a central platform for discussions on key issues, the exchange of views and the latest trends and innovations, as well as sharing best practices to support a safe and efficient future for global aviation.



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# “The theme of this year’s symposium is Managing Change: Building a Safe, Secure and Sustainable Aviation Community.”

## GACS 2

Building on the value of the first event, this year, TCB is collaborating with the Hellenic Civil Aviation Organization (HCAA) and the Athens International Airport (AIA) to organize the second Global Aviation Cooperation Symposium (GACS 2). The event will be hosted by the HCAA and AIA in Athens, Greece from 11 to 13 October 2017.

The theme of this year’s symposium is “Managing Change: Building a Safe, Secure and Sustainable Aviation Community”. As was the case for the first GACS, the second one will also include an industry exhibition to foster a unique forum for regulators, service providers, operators and other industry stakeholders to discuss and share their experiences and best practices in implementing technical cooperation projects with the aim of fostering a solid aviation community. Moreover, the event will offer a unique opportunity to obtain in-depth knowledge of ICAO’s Technical Cooperation Programme and how it can meet States’ needs.

The event will have a combination of speaker sessions, discussion panels, and workshops covering all of the main areas of civil aviation, including - airport development, enhancing air navigation services, implementing a robust safety oversight system, aviation security and facilitation, as well as enabling topics such as: sharing of best practices for technical project implementation, cooperation through regional projects, capacity-building through training and project funding and resource mobilization.

It is therefore with great enthusiasm that ICAO, in collaboration with HCAA and AIA, invite all States and other stakeholders to participate in GACS 2, on the lovely shores of Athens, Greece. More information is available at the event website: <http://www.icao.int/meetings/GACS2017>. Additional questions, including queries by those interested in sponsoring or exhibiting at the event can be sent to: [gacs@icao.int](mailto:gacs@icao.int).

TCB looks forward to seeing you there. ■

## THE MAIN GOALS OF GACS 2

### 01 MANAGING CHANGE: BUILDING A SAFE, SECURE, AND SUSTAINABLE AVIATION COMMUNITY.

Discussion of how best to manage the changes necessary to build and maintain a safe, secure and sustainable aviation community. Industry leaders, technical experts, national and international specialists will be at the heart of the Symposium’s discussions. These industry experts will share their knowledge and perception of current and emerging trends within the context of technical cooperation. Safety, security and environmental concerns will be discussed across the areas of airport development, air navigation, safety oversight, security and facilitation, as well as building regional and inter-regional mechanisms.

### 02 DETERMINING UNIQUE SOLUTIONS FOR CAPACITY-BUILDING THROUGH TECHNICAL COOPERATION AND ASSISTANCE PROJECTS.

The Symposium will provide an opportunity to discuss ascending difficulties identified across the full spectrum of aviation and emerging technologies and trends. States will have the occasion to capture commonly found issues, solutions and best practices shared through the presentation of Technical Cooperation and Technical Assistance projects. Project successes, challenges, and implementation of technical solutions will be showcased.

### 03 PROMOTE THE ROLE ICAO’S TECHNICAL COOPERATION PROGRAMME IN ASSISTING STATES TO ACHIEVE THEIR GOALS.

The Symposium will also provide a general overview of ICAO’s TC Programme services and best practices in providing capacity-building assistance to Member States and regional organizations.

### 04 STRENGTHEN INSTITUTIONAL AND CROSS-INDUSTRY RELATIONSHIPS.

The Symposium will bring together ICAO experts, Member States, industry providers, national, regional and international organizations to enhance collaboration between authorities, industry and other stakeholders through technical cooperation.

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/ RWANDA /

# HOW COMPLIANCE WITH INTERNATIONAL STANDARDS HAS FACILITATED DEVELOPMENT.



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## TONNY BARIGYE

*He has been the Public Relations Officer at Rwanda Civil Aviation Authority for 7 years. A former freelance journalist for 9 years with New Vision in Uganda and reporter with the New Times Publication Ltd. in Rwanda, he was also a pioneer writer of the Private Sector Publication in Rwanda. Recently, he launched a bi-annual publication for the Rwanda Civil Aviation Authority covering the latest news, analyses and transformational activities within Rwanda's aviation sector and beyond*



On 3 February 1964, the Government of Rwanda became a signatory to the Chicago Convention of 1944.

Since its inception, the International Civil Aviation Organization (ICAO), as a United Nations specialized agency, has actively worked toward streamlining the global aviation industry. This has been done through various programmes and audits that emphasize Standards and Recommended Practices (SARPs) to incorporate new changes.

In Rwanda's case, there has been an aggressive strategy toward ensuring world-class safety, security and the provision of quality services – elements that are key to industry sustainability.

## POST-GENOCIDE RWANDA

At the end of 1994, Rwanda's economy was in tatters due to the grueling effects of the genocide against the Tutsi. One million people were massacred. Both human resources and infrastructure were in total ruins across all sectors of the national economy. However, this calamitous situation did not deter the drive for reconstruction by the current Government of Rwanda and the pursuit of an ambitious plan that set off a speedy recovery. In this regard, the aviation sector was no exception.

As the Government of Rwanda implemented its plan to improve macroeconomics and rejuvenate the private sector, it recognized that a vibrant aviation industry could break the barriers of the country's landlocked status and it formulated a long-term vision of linking Rwanda to world markets.





Aviation was earmarked as a major pillar of the economy and major investment was dedicated to the sector. ICAO proved to be an invaluable partner to Rwanda in this endeavor because it offered a basis for compliance that provided a solid foundation for the aviation sector upon which momentum could be built.

#### ICAO GUIDANCE

Since the outset of reconstruction, ICAO has provided guidance to ensure that development efforts have been internationally compliant. Among others, ICAO's key endeavors have been to resolve the outstanding significant safety concerns; improve the State's effective implementation of the eight critical elements of the safety and security oversight systems; accelerate implementation of the Yamoussoukro Decision to improve connectivity through liberalization of air transport; ensure access and affordability to the public; and achieve efficient and seamless air traffic management systems.

In transforming the socio-economic state of the African continent and the world at large, ICAO has also provided assistance to ensure the sustained growth of air transport, thus contributing to 13 of the 17 Sustainable Development Goals (SDGs).

Rwanda has greatly benefitted from a relationship with ICAO that dates back to the domestication and operationalization of the Convention on International Civil Aviation and its related Annexes through smart regulations that have guided both regulators and operators in achieving globally accepted standards.

#### 2007 USOAP AUDIT

Since the 2007 USOAP audit, Rwanda's regulatory aviation arm, the Rwanda Civil Aviation Authority (RCAA) has worked tirelessly

to ensure compliance by resolving weaknesses identified through gap analysis. This can be confirmed by the 2012 ICVM audit that showed tremendous improvement in, not only putting regulations in place, but also following up with the implementation process to achieve tangible results. ICAO's Eastern and Southern Africa Regional Office (ICAO EASF) has followed up by conducting continuous guidance missions to Rwanda called Regional Office Safety Team Assistance (ROST) missions.

This support has significantly enhanced the RCAA's inspection, quality management capacities as well as its primary and operating regulations, and technical guidance materials. The institution has also ensured the quality of airworthiness, flight operations and personnel licensing staff through continuous knowledge development to continuously upgrade human resource capabilities, which has consequently raised safety standard to the benefit of passengers.

With ICAO SARPs as the foundation, the RCAA has become steadfast in its resolve to make the aviation sector the best it can be, and the country is on a clear path of developing an efficient, safe and secure civil aviation industry in Rwanda. With an efficient organization in place, the compliance results are excellent and the ultimate goal of becoming an aviation hub is in sight.

This dynamic environment has attracted international carriers to Rwanda as a preferred destination. Rwanda's alignment with international standards has enabled the country to enter into Bilateral Air Service Agreements (BASAs) with over 50 countries within and beyond Africa, and the country is now championing the accelerated implementation of the Yamoussoukro Decision (Open Skies) following the solemn commitment by 11 Heads of State in 2015 to liberalize African markets.

In just five years, RwandAir has achieved IOSA and ISAGO certifications, enabling the airline to spread its wings to more than 19 destinations across Africa and to Dubai. The national carrier will very soon add London, the United States, and India to its list of destinations. The certifications attest to the relentless work being done by the regulatory arm of the Government of Rwanda so that the airline ensures internationally recognized operational efficiency in the areas of safety, security and the provision of traveller-centric service.

#### MAJOR INVESTMENTS IN AIRPORTS

The correlation between international compliance and the Government of Rwanda's persistent efforts to develop the aviation sector over the last five years has resulted in investments of over \$70 million in infrastructure and enhanced technology. At Kigali International Airport, major investments were made to ensure reliability and efficiency in air traffic management and meteorological systems, in addition to considerable minimization of bird strikes with the installation of a Bird Collision Avoidance System (BCAS) along the runway.

A new apron has doubled parking capacity, and the expansion of the terminal building has cut back queues and congestion. The upgrade has also enabled faster movement for passengers, hence reducing check-in time. With the new clearance software, acquiring an overflight and landing permit takes five minutes compared to previous clearances that took up to three days. As a result, the Kigali International Airport has, for the last five years, been ranked among the ten best airports in Africa.

Construction of the state-of-the-art New Bugesera International Airport (NBIA) with bigger and better handling capacities is underway. In a show of dedication to the growth of aviation and the impact on the economy, the Government of Rwanda initiated a public-private partnership with Mota-engil, a Portuguese construction company, to jointly spearhead this project. Located 40 km from Kigali City, the NBIA is designed to accommodate the steadily increasing air traffic, which is growing by 13 percent annually.

#### UAV REGULATIONS

In February 2016, Rwanda became one of the first countries in Africa to put in place regulations governing Unmanned Aerial Vehicles (UAVs) commonly, called drones. Since then, UAV related companies and activities have become frequent in the country. They have gradually been incorporated into the economy and used in the formulation of significant income generating projects, research and recreational activities.

Rwanda has been able to build an aviation sector that has increasingly become a pillar of economic muscle linking Rwanda to international markets and breaking down market barriers. Its aggressive strategy promises to benefit the Rwandan people for decades to come. ■

“In just five years, RwandAir has achieved IOSA and ISAGO certifications, enabling the airline to spread its wings to more than 19 destinations across Africa and to Dubai.”



# ATC, FIRE AND RESCUE TRAINING FOR AFGHANISTAN



**DANIEL SOUHAMI**

*He is a Field Operations Officer with ICAO's Technical Cooperation Bureau Project Development Unit. He works as a member of the team that develops all projects for TCB. He joined ICAO/TCB in 2001. His previous work experiences include the World Bank, the Canadian Trade Commissioner Service, as well as the private sector and academia.*



Afghanistan currently benefits from a burgeoning aviation sector characterized by multiple international commercial carriers flying from major international hubs directly into Afghanistan. Regular and safe access to Afghanistan by air is an essential part of Afghanistan's economy and key to maintaining its stability. Afghan businesses rely on commercial cargo to bring products and raw materials into and out of Afghanistan. Afghan and international investors depend on commercial aviation to connect and plan their investment strategies.

July 2016 marked the beginning of the implementation of a technical cooperation project aimed at building capacity in Afghanistan through the training of national personnel. With the aim of building capacity and complying with ICAO Standards and Recommended Practices (SARPs), the Afghanistan Civil Aviation Authority (ACAA), in close collaboration with the United States Department of State (DOS), made a request to ICAO to provide assistance to ACAA by way of formal capacity-building through a recognized ICAO accredited training establishment.

The main purpose of the project was to strengthen ACAA's capacity to manage airspace and airfields, as well as strengthen its safety oversight, in compliance with ICAO SARPs. The first phase of this project, funded by DOS, consisted of training over 30 Afghan Fire Crash and Rescue Service personnel and over 40 Air Traffic Controllers.

## ICAO TRAINAIR PLUS ACCREDITED ACADEMIES

The training was conducted in three ICAO TRAINAIR PLUS accredited academies in India, supported logistically by UNOPS and coordinated through ICAO's Technical Cooperation Bureau (TCB).

The training itself was conducted by the Airports Authority of India Fire and Training School (FTS) in Delhi and Kolkata for the fire fighters, as well as the Civil Aviation Training College (CATC) in Allahabad for the Air Traffic Controllers. All three establishments are TRAINAIR PLUS accredited, ensuring that the students would benefit from high quality training.

Some students had difficulties, mostly due to the level of English, which they strived to improve, while in India to meet and pass the course requirements. In the end, all 44 Air Traffic Control students, as well as all 31 Airport Rescue and Fire Fighter students graduated and have been awarded their ICAO certificates. And now, the torch is in their hands to implement what they have learned and pass on this knowledge. Only then, can the impact and true benefits of the project be measured.

Thanks to this training, the Afghan nationals are now back in Kabul undergoing OJT to help them meet the required ICAO standards. Subsequent phases of this project will see more Afghan nationals benefit from similar training.





#### AN EXCEPTIONAL COLLABORATIVE EFFORT

The project was not without its challenges. As is the case for almost any project, a number of hurdles, whether technical, logistical or administrative, had to be overcome. In this particular case, the effective coordination between ICAO, ACAA, DOS, UNOPS and the training academies was critical for the successful outcome. In spite of the difficulties related to different time zones, tight deadlines and budget constraints, as well as varying administrative requirements and reporting cycles, the project was completed

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“The first phase of this project, funded by DOS, consisted of training over 30 Afghan Fire Crash and Rescue Service personnel and over 40 Air Traffic Controllers.”

within the prescribed schedule and within the allotted costs. It is because these challenges existed, that marks this as a worthy project. With every new test, whether it was obtaining visas and making travel arrangements, or maintaining tight budgetary control to avoid cost overruns, to the tailoring of some of the training aspects to cater to the specific needs of the students, the project personnel were equal to the task. Such commitment to achieve the project objectives by each organization involved is a testament to the passion and dedication of their personnel.

It is important, in a project, to clearly define the responsibilities of each of the stakeholders. In this particular case, it is important to acknowledge the distinct roles each party played. Firstly, we should mention the contribution of the United States Government. It was through a generous grant from the DOS, that the project funds could be allocated. They initiated, championed and funded the project, which otherwise would not have materialized.

Another important player in the project execution, from beginning to end, was UNOPS. Their logistical and administrative support in the field was paramount for the timely implementation of the project activities. Without their aid, the Afghan nationals would surely not have been able to travel on the appointed dates to be present for the start of the courses. It should be noted that securing the involvement of UNOPS was a challenge unto itself. Many believe it easy for two or more entities to collaborate to the same end. However, even organizations within the UN family have their own distinct rules, legal requirements, reporting cycles, etc.

Due to the short timeframe to have all the necessary formalities approved to avoid any project delays, it was a herculean effort



from both TCB and UNOPS to reach an expeditious agreement. The result of this collaboration had a direct benefit, not only for this project, but also to pave the way for further ICAO-UNOPS partnerships in support of civil aviation around the world.

Finally, and possibly most importantly, it is necessary to emphasize the participation of the ACAA, in particular the students that underwent the training. This project was certainly no pleasure tour for them. They needed to overcome a number of trials, both in terms of the course requirements, as well as the exigencies of the project, such as travelling on short notice, issuance of the necessary documentation and other administrative challenges.

#### THE ULTIMATE GOAL

Through this technical cooperation project, the Afghan nationals undertook training fundamental for the State to provide improved services in the related areas, thus contributing to the enhancement of aviation safety in the country. Moreover, the project serves as a powerful illustration of the virtues of close collaboration between different entities in the aviation community, as well as the pivotal role ICAO's Technical Cooperation Programme played in the development of the skills and experience of aviation professionals, further contributing to the *No Country Left Behind* initiative.

These are the type of achievements that TCB endeavours to realize. A project such as this, involving the training of approximately 70 students, as simple as that may appear, is no small feat. Yet, working together with partner entities, such as DOS, UNOPS and ACAA, TCB was able to accomplish the desired objective. With every project implemented, no matter how small or how big the victory, they all contribute towards the ultimate goal of building a safe, secure and sustainable civil aviation community. ■

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“Due to the short timeframe to have all the necessary formalities approved to avoid any project delays, it was a herculean effort from both TCB and UNOPS to reach an expeditious agreement.”



# ICAO

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9 - 11 Oct.	ICAO Regional Aviation Training and TRAINAIR PLUS Symposium	Astana, Kazakhstan
11 - 13 Oct.	The Second Global Aviation Cooperation Symposium (GACS 2)	Athens, Greece
11 - 13 Oct.	Second ICAO Conference on Aviation and Alternative Fuels (CAAF2)	Mexico City, Mexico
16 - 18 Oct.	ICAO Regional Safety Management Symposium, European and North Atlantic Region	Tallinn, Estonia
24 - 26 Oct.	Thirteenth Symposium and Exhibition on the ICAO Traveller Identification Programme (TRIP)	Montréal, ICAO HQ
30 Oct. - 17 Nov.	ICAO Council 212th Session - Council phase	Montréal, ICAO HQ
20 - 22 Nov.	Second Global Runway Safety Symposium	Lima, Peru
20 - 22 Nov.	ICAO World Aviation Forum - Financing the Development of Aviation Infrastructure	Abuja, Nigeria
20 - 22 Nov.	ICAO ATFM Global Symposium (ATFM2017)	Singapore
27 - 28 Nov.	ICAO Next Generation of Aviation Professionals (NGAP) Global Summit	Montréal, ICAO HQ
28 - 30 Nov.	ICAO TRIP Regional Seminar Jamaica 2017	Montego Bay, Jamaica
29 - 30 Nov.	Seminar on Green Airports	Montréal, ICAO HQ
4 - 8 Dec.	ICAO Air Services Negotiation Event 2017	Colombo, Sri Lanka
11 - 15 Dec.	Second Global Air Navigation Industry Symposium (GANIS/2) and First Safety and Air Navigation Implementation Symposium (SANIS/1)	Montréal, ICAO HQ

\* All event dates are subject to change

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# DEVELOPMENTS IN AVIATION IN PARAGUAY



**WALTER AMARO**

*He is a Chilean Engineer who graduated from the University of Santiago, Chile. He currently resides in Paraguay where he works as International Coordinator of the DINAC/ PAR/08/801 Project. He has served in the Air Force and the Aeronautics Directorate of Chile. In 1993, he was hired as an ICAO Expert and in 1997, he was appointed Head of Operations for the Americas of TCB. Walter Amaro has also held professorships at the Polytechnic Academy of Chile and the University of Santiago.*



Over the past few decades, the State of Paraguay has demonstrated economic growth that has set it apart, both at the regional level and globally. In the field of aviation, the Government has sought to promote this growth by providing better aviation services and improving the country's connectivity.

For many years, the International Civil Aviation Organization (ICAO) Technical Cooperation Bureau (TCB) has provided ongoing technical assistance through national and regional cooperation projects.

Since October 2007, Paraguay's National Directorate of Civil Aviation (DINAC) has maintained a Management Service Agreement (MSA) with ICAO. Under this MSA, the technical cooperation project: DINAC/ICAO PAR/08/801 Airport Development was established in August 2009 to assist DINAC in improving its aviation services and the quality of its safety and security services, thereby meeting the obligations set forth in both the Chicago Convention and ICAO's Standards and Recommended Practices (SARPs). This project also includes support for the enhancement of administrative management and logistical support for airport services, as well as an overhaul of DINAC's organizational structure and legal framework.

## **MODERNIZATION OF THE SILVIO PETTIROSSI INTERNATIONAL AIRPORT**

The PAR/08/801 Airport Development project was launched in August 2009 for an initial period of four years and four months. Later, in January 2014, it was extended to December 2018 in order to include ICAO assistance in the oversight and management of the DINAC project for the modernization of the Silvio Pettirossi International Airport, which is being implemented in conjunction with the Ministry of Public Works and Communications (MOPC). The Ministry serves as the Administration for Contracting. This project to modernize the Pettirossi Airport is being carried out under the Public-Private Partnership Law established by the Paraguayan Government.

In line with a request from DINAC, during the reference study conducted by the DINAC/ MOPC technical team in June 2014 at ICAO Headquarters in Montreal, it was decided to create a local Technical Cooperation Office in Asunción, Paraguay as part of the PAR/08/801 project. The aim was to enable more direct and continuous participation in DINAC's activities in the country's aviation sector. This office comes under the responsibility of an International Coordinator designated by ICAO and approved by DINAC.

Among the activities being developed by the Pettirossi International Airport Modernization Project, numerous international experts contracted by ICAO have worked with professionals from DIANC as part of the PAR/08/801 project to establish a Pre-Feasibility Study, a Feasibility Study, and a Master Plan for Pettirossi International Airport. This working group will also work with professionals from MOPC to draft the Technical Specifications and Terms of Reference required by the Government of Paraguay to issue an international call for tenders to implement the modernization project for the airport.



“As a result of the follow-up conducted by the ICVM in June 2016, Paraguay has strengthened its capacity for safety oversight, at 72% compliance with the Safety Oversight Standards.”

#### **MULTIPLE IMPROVEMENTS**

The modernization project includes improvements to the current terminal and to the aviation services associated with the airport, the construction of a new terminal building, and the improvement of all runways and aprons, including the oversight of engineering projects on the air field. The project also covers the operation and maintenance of the Pettirossi International Airport over 30 years, as specified in the public-private partnership contract between the Contracting Administration and a private investor.

The project to modernize the Pettirossi International Airport is now underway. The call to tender has elicited three bids from international companies, which are currently being evaluated. The process is expected to be finalized and the contract signed in mid-2017.

#### **MEETING SAFETY OVERSIGHT STANDARDS**

Another aspect of the DINAC/ICAO project relates to the corrective actions proposed to rectify various deficiencies identified in the report of the ICAO Universal Safety Oversight Audit Programme (USOAP). As a result of the follow-up conducted by the ICVM in June 2016, Paraguay has strengthened its capacity for safety oversight, at 72% compliance with the Safety Oversight Standards. With regard to Aviation Security (AVSEC), following the USAP audit conducted in June 2016, the country attained 80% compliance.

In addition to these achievements, DINAC is modifying its organizational structure in order to better reflect its regulatory and operational responsibilities in Paraguay. ■



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# ARGENTINA AND ICAO: A LONG HISTORY OF TECHNICAL COOPERATION



**AGUSTÍN RODRÍGUEZ GRELLET**

He co-authored the draft bill that led to creation of EANA S.E. In February 2016, he became the company's first President and CEO. He was also adviser to the Air Transport Under-Secretariat and headed the National Civil Aviation Administration (ANAC) Legal Affairs Department, among other positions in the industry.

Thanks to his international experience, Agustín has been Alternate Representative of Argentina to the International Civil Aviation Organization (ICAO) Council. He is a Full Member of the Ibero-American Institute of Air, Space and Commercial Aviation Law (an advisory body to the United Nations) as well as the Worldwide Airport Lawyers Association (WALA).

*In 1968, Argentina established the Comando de Regiones Aéreas (Military and Civil Aviation Authority) as an Air Force division responsible for coordinating, together with Comando de Operaciones Aéreas, the powers set out by Law 21,521: "Management of the Air Traffic Services; the Communications Services; the National Weather Service; Aircraft and Personnel Register and Certification; the Promotion of Civil Aviation Activity; the Prevention and Investigation of Civil Aircraft Accidents on Argentine Land and Sea Territory; representing Argentine aviation nationally as well as internationally; fostering aeronautical history studies and the aeronautical industry as a whole, and advancing plans for achieving the above goals in the performance of its duties".*



Beginning in 1978, with the aim of meeting the above-stated goals, Argentina received assistance within the framework of the United Nations Development Programme and ICAO (UNDP/ICAO) through multiple cooperation programmes: ARG/78/017 (1978-1981), ARG/81/007 (1981-1986), ARG/87/004 (1987-1990) and ARG/90/002 (through 1991).

However, the critical socio-economic situation Argentina was facing in those days called for an extension of the above assistance in order to safeguard the achievements made in the area of contracting of qualified personnel, local and foreign training, acquisition of equipment and documentation (among other items). Consequently, and based of this need, both parties agreed on the implementation of a new Technical Cooperation Project "ARG/92/003", extended through May 1993. At that point, UNDP assistance ceased and, as a result, ICAO undertook the commitment to assist Argentina through a Technical Cooperation project.

In 1993, ICAO offered to formalize a Management Service Agreement (MSA) with Argentina – signed 1 June 1993 – aimed at enhancing Argentina's capabilities related to airworthiness certification, airworthiness and air safety oversight, and aeronautical personnel training and licensing. Expected to run three years, the project was eventually extended through 2007.

## DNA

As part of the project, the National Airworthiness Office (Dirección Nacional de Aeronavegabilidad, or DNA) contracted a number of aeronautical experts tasked with management of the National Aircraft Register and airworthiness certification of civilian aircraft and aircraft repair stations. An integral training programme was initiated aimed at aeronautical engineers and aviation maintenance inspectors, in addition to other technical staff involved with airworthiness certification and oversight. Aviation inspectors from other Latin American countries also took part in this training syllabus.



“Recognizing the need to invest in new, basic CNS systems, in 2004, Argentina entered into a new Cooperation Project as a means to support the social, economic and cultural development of its aviation oversight body and the SAM region.”

The hiring and periodic training of Argentine staff helped ensure a high degree of employee retention at the DNA, thereby boosting its flight safety oversight and compliance with international regulations.

In parallel, the RLA/97003 Regional Project, entitled Development of Airworthiness and Safety in Latin America was launched in 1995, making Argentina its focal point of execution and assisting other Latin American nations in:

- assessing and adopting the requirements needed to maintain proper and efficient airworthiness bodies;
- establishing regulations and proposals for rulemaking in airworthiness;
- training aviation professionals and technicians in the enforcement of airworthiness procedures (Development and Delivery of Airworthiness Training Courses, I & II);
- supporting adequate, as well as efficient airworthiness management; and
- strengthening the DNA's flight safety oversight, supporting its functions and recommending measures for overcoming any possible deficiencies.

In 2002, the CRA requested further ICAO assistance, which ultimately materialized in the form of Project ARG/02/801 - Strengthening of the Air Regions Command. This project was aimed at contracting Argentine professionals; purchasing new equipment; providing international as well as national training to CRA staff; and



“In March 1997, the federal government created the Argentine Civil Aviation Administration (ANAC) as a decentralized organism under the aegis of the Federal Planning, Public Investment and Works Ministry.”

developing other activities deemed necessary in order to support the aviation authority in the exercise of its functions. The project commenced in 2003, with a planned duration of five years.

Recognizing the need to invest in new, basic CNS systems, in 2004, Argentina entered into a new Cooperation Project as a means to support the social, economic and cultural development of its aviation oversight body and the SAM region. This project, ARG/04/801 - Investments in New Basic CNS Systems, expired on 31 December 2010. Financed by the Argentine Republic, its aim was to support the implementation of communications, navigation and surveillance (CNS) services as per the Facilities and Services Implementation Document (FASID) of the Caribbean & South American (CAR/SAM) Regional Air Navigation Plan.

Its main activities focused on purchases of navigational aids and weather equipment, as well as entry into service of the first Aeronautical Message Handling System (AMHS) in Latin America. The support provided by ICAO helped ensure that the new equipment complied with ICAO SARPs and the recommendations set forth by the CAR/SAM Regional Planning and Implementation Group (GREPECAS).

In October 2007, three of the projects above, ARG/04/801 (CNS), ARG/93/901 (Creation of the National Airworthiness Office) and ARG/02/801 (Strengthening of Air Regions Command) – covered

by the Framework Agreement between ICAO and the CRA – were grouped together as ARG/04/801. This ensured continued compliance with the individual goals expressed in each project. This project was completed in December 2010.

#### ANAC

In March 1997, the government created the Argentine Civil Aviation Administration (ANAC) as a decentralized organism under the aegis of the Federal Planning, Public Investment and Works Ministry. On 29 November, the government initiated a dedicated programme to hand over aviation oversight to the ANAC.

Subsequently, an agreement on the management of aviation functions, previously signed between the government and ICAO on August 2007, entered into force under the framework of Government Decree 238/2007. The latter established the foundation of the ANAC with the purpose of “Enhancing the creation of the new Civil Aviation Administration” (ARG/07/803).

The aim of the above project was to assist ANAC in its integration of human resources and logistical systems and equipment in order for the new organization to consolidate and deepen its activities, and ultimately achieve full transfer of the functions previously performed by the CRA. The main guidelines included in the project were as follows:



“On 29 July 2015, Argentina enacted Law 27,161, establishing Empresa Argentina de Navegación Aérea (EANA), a Transport Ministry company tasked with management of the air navigation service and related activities.”



- support ANAC in order to ensure continued operation of its administrative and financial processes as well as the ongoing availability of office space, equipment, communications and information systems for the entirety of its central and regional administrations; and the operation of all of its aeronautical systems;
- support the management capacity of the aeronautical authority by making international consultants available to it for as long as needed. Said consultants would be required to be competent in air navigation, flight safety, air law and air transport;
- provide aeronautical equipment to modernize the Rescue & Firefighting Service, including the provision of auto-extinguishers (various capacities), personal protective equipment and improved facilities in order to meet the international coordination standard; and
- provide radar systems; navigational aids; communications systems; maintenance systems, air navigation and flight safety inspections and oversight systems, as required.

In the wake of industrial action in 2011, management of and operational control over the air navigation services returned to the Air Force (Government Decree 1840). This situation prompted a request for continuation of TCB assistance. A new Project (ARG12/801) was necessary in order to support the transfer of responsibilities for air traffic and air navigation services from ANAC to the Defense Ministry/ Air Force's Air Traffic Control Directorate (DGCTA).

This Project was also intended to support the efficient, uninterrupted provision of air traffic service as well as successful implementation of

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“Upon completion of Project ARG 16/801, EANA expects to be operating state-of-the-art equipment, in full compliance with the facilities, services and procedure requirements contained in the Air Navigation Plan for the Caribbean and South American Regions.”

the communications, navigation and surveillance systems (CNS) as per the FASID document of the Caribbean and South American (CAR/SAM) Regional Air Navigation Plan. Once again, the support provided by ICAO helped ensure that the new equipment complied with ICAO SARPs and the recommendations established by the CAR/SAM Regional Planning and Implementation Group (GREPECAS).

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“Argentina expects to double its air passenger volumes in four years. EANA is keenly aware of its role in this transformation.”

#### EANA

On 29 July 2015, Argentina enacted Law 27,161, which Congress had passed on 15 July. Law 27,161 established Empresa Argentina de Navegación Aérea (EANA), a Transport Ministry company tasked with management of the air navigation service and related activities. Exception was made for services at a small number

of airports where the Defense Ministry remained in charge for reasons of national security.

Within this context, and with the aim of securing continued TCB assistance, EANA signed a new Project, ARG16/801 - Strengthening of the Air Navigation Services and Updating of the CNS Systems. Funded by the Argentine Government, the project is intended to provide assistance for the efficient and uninterrupted provision of air traffic services and for the implementation of communications, navigation and surveillance (CNS) systems as per FASID. In addition, it ensures that all procured equipment is compliant with ICAO SARPs and GREPECAS.

Upon completion of the project, EANA expects to be operating state-of-the-art equipment, in full compliance with the facilities, services and procedures requirements contained in the Air Navigation Plan for the Caribbean and South American Regions. Similarly, new service standards will be in place at all its air traffic services, land-based infrastructure, and airways countrywide.

EANA expects to complete the revamp of Argentina's air navigation service and the provision of enhanced facilities by the time the project ends. This also includes increased use of automation in the civil aviation sector. At the same time, company staff will be fully immersed in a new culture of enhanced, regular training across the board and the provision of safe as well as efficient service with due regard for the environment.

EANA expects to attain these goals for the benefit of its national and international customers. Argentina, particularly the Transport Ministry, has set the ambitious objective for itself of seeing air passenger traffic volumes double in four years (2016-2019). EANA is keenly aware that it has a key role to play in this transformation. ■

# VENEZUELA UNDERTAKES MAJOR PROJECTS TO OPTIMIZE AIR NAVIGATION SERVICES FOR 2017



With a view to modernizing Venezuelan civil aviation and to fulfilling the requirements of the International Civil Aviation Organization (ICAO), the National Institute of Civil Aeronautics (INAC) of the Bolivarian Republic of Venezuela, under the jurisdiction of the Ministry of Popular Power for Transport (MPPT), signed a Service Management Agreement with ICAO in 2016 for the provision of the technical support and advice required to complete major projects related to air navigation services.

This alliance leveraged the extensive experience of ICAO's Technical Cooperation Bureau (TCB) in international purchasing processes, which call for public tenders, prompt and precise execution and total transparency in all administrative procedures.

ICAO, the specialized agency for aviation of the United Nations, supports its 191 Member States in the development and implementation of civil aviation projects aimed at enhancing safety, security and facilitation, capacity and efficiency of air navigation services, the economic development of air transport and environmental protection.

Between 2005 and 2012, the Government of Venezuela promoted civil aeronautical policy through the Modernization of Airports and Air Traffic Management Project (MAGTA). This was a successful endeavor of major proportions that covered 26 projects in areas such as: airspace surveillance, air navigation aids, search and rescue, aeronautical communications and training.

In 2017, the Bolivarian Republic of Venezuela is implementing four new projects, under a new Service Management Agreement, to optimize the Directorate of Air Navigation Services, specifically: restoration of MI-172 helicopters for the Search and Rescue Service (SAR); equipment for the new Control Center at the Simón Bolívar International Airport in Maiquetía; logistics for the maintenance of the radar systems purchased during MAGTA and modernization of the radar at Maiquetía. These projects will be supported by ICAO's TCB.

## **RESTORATION OF MI-127 HELICOPTERS FOR THE SEARCH AND RESCUE SERVICE (SAR)**

The Government has undertaken a project to repair three Search and Rescue Service helicopters as soon as possible. These repairs are being performed to guarantee superior search and rescue services to the Venezuelan people and in accordance with the provisions established under Venezuelan Aeronautical Regulation No. 279, in order to meet the national legal requirements in force and to satisfy ICAO Standards and Recommended Practices (SARPs).

As well, in accordance with the Homeland Plan 2014-2019, the Civil Aviation Authority is responsible "to maintain the correct operation of air navigation services, through





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“This alliance leveraged the extensive experience of ICAO’s Technical Cooperation Bureau (TCB) in international purchasing processes, which call for public tenders, prompt and precise execution and total transparency in all administrative procedures.”

the strengthening of the logistic cycle, as well as 24-hour provision of SAR services in case of air accidents”, which fall under the Directorate of Air Navigation Services.

#### **EQUIPMENT FOR THE NEW CONTROL CENTER AT THE SIMÓN BOLÍVAR INTERNATIONAL AIRPORT IN MAIQUETÍA**

The Control Center at the Simón Bolívar International Airport in Maiquetía, which is committed to excellence and leadership in maintaining international standards of air transit safety, requires an appropriate physical space equipped with cutting-edge technology in order to achieve its mission. The specifications for this facility include quality, comfort, ergonomics and leading technology systems in order to facilitate prompt and accurate decisions to resolve complex issues. The operators must be able to interact easily and solve any situation related to the Air Navigation Services, taking into consideration that this Directorate manages all air traffic within the Maiquetía Flight Information Region (FIR Maiquetía).

To this end, the project involves purchasing and certifying a new Area Control Center (ACC) and updating and equipping the national Approach Control Services (APP) in order to maintain service excellence by using the latest technology to meet the requirements of the Regional and National Air Navigation Plan.

#### **LOGISTICS FOR THE MAINTENANCE OF RADAR SYSTEMS PURCHASED DURING MAGTA**

As part of the Modernization of Airports and Air Traffic Management Project (MAGTA), executed by the Government of the Bolivarian Republic of Venezuela through INAC, with the support



and advice of the ICAO's TCB, five S-band primary surveillance radar systems, two L-band primary surveillance radar systems and ten secondary surveillance radar systems (MSSR) were purchased in order to expand the installed capacity and strengthen the safety and reliability of Air Navigation Services. These radar systems were installed starting in 2007.

The purchase of this logistic support is aimed at checking, correcting and repairing failures on these radar systems when they might occur. This will greatly reduce the response time and allow for optimal operation of the systems. In this way, the provisions of RAVs will be fulfilled.

#### **MODERNIZATION OF RADAR AT THE SIMÓN BOLÍVAR INTERNATIONAL AIRPORT IN MAIQUETÍA**

In 2005, through the modernization project called "Maiquetía 2000" executed by the Institute of Maiquetía International Airport (IAIM), a fully solid-state S-band primary surveillance radar system with 80 nautical mile range along with a Model ASR 10 SS, and a monopulse secondary mode-S radar, with a theoretical 250 nautical mile range was acquired to replace the former radar system. This new system was installed between 2006 and 2007 and began operation in 2007.

To continue the updating process of Venezuelan civil aviation systems, purchase of a new fully solid-state S-band primary

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“The operators must be able to interact easily and solve any situation related to the Air Navigation Services, taking into consideration that this Directorate manages all air traffic within the Maiquetía Flight Information Region (FIR Maiquetía).”

surveillance radar system, with 80 nautical miles range, as well as a monopulse secondary mode-S radar is planned. This will allow Venezuela to continue meeting international standards and ICAO SARPs with regard to automatic identification of aircraft. Additionally, this mode-S radar allows tracking of each aircraft separately and its new 25 feet altitude resolution – against the former 100 feet – represents a major benefit to air transit services.

Air surveillance systems have become a fundamental tool for aviation safety and for air services providers, since they offer air traffic controllers a real-time panoramic overview of the situation in the air. This allows ATCs to make appropriate decisions to guarantee adequate separation between aircraft that operate within the same air space.

With the prompt execution of the aforementioned projects, the Bolivarian Republic of Venezuela is continuing to progress in the field of civil aviation and maintain the international standards set forth by ICAO. ■

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