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NEWS AND DEVELOPMENTS FROM THE INTERNATIONAL CIVIL AVIATION ORGANIZATION - VOL.73 - NO.2

# SJOURNAL

PREVIEW: 13™AN-Conf

GANP, GASP, GASOS, SAFETY MANAGEMENT, AND INNOVATION



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### **Editorial**

ICAO Communications Unit +1 (514) 954-8221 www.icao.int communications@icao.int twitter.com/icao

Editor: Rick Adams
AeroPerspectives
+(33) 603 73 05 12
rickadams@aeroperspectives.com
AeroPerspectives.com

Graphic Designer: June Kim +1 (514) 954-8219 ext. 7168 jukim@icao.int

### **Advertising**

FCM Communications Inc.
Yves Allard

Tel: +1 (450) 677-3535 Fax: +1 (450) 677-4445 info@fcmcommunications.ca

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+1 (514) 954-8022 sales@icao.int

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### MESSAGE FROM THE ICAO SECRETARY GENERAL, DR. FANG LIU

# **TECHNICAL AND GENDER PRIORITIES**

An important alignment



This issue of the ICAO Journal provides an important preview of the decisions to be considered at ICAO's rapidly approaching 13th Air Navigation Conference (AN-Conf/13, ICAO HQ, 9-19 October), as well as a detailed overview of the excellent progress which was achieved at the inaugural Global Aviation Gender Summit in Cape Town, South Africa, this past August.

It also presents a helpful infographic summary of many of ICAO's achievements across our complete range of Strategic Objectives and capacity-building efforts during 2017, and an exciting preview of the challenges and opportunities of future air transport and the new aircraft presently being innovated for lower- and higheraltitude operations.

While some may see these stories as distinct, from some important standpoints they are also very much complementary.

ICAO Air Navigation Conferences, for example, take place only once every decade or so. They deliver critical decision-making and planning outcomes which can shape the course of the air transport sector and airspace management for years to come, and in this instance will help to begin to prepare the safety and air navigation planning foundation needed to accommodate new model aircraft and operations.

The 11-day duration of AN-Conf/13 speaks to how dense its agenda is, and to the sheer volume of items to be considered. It will feature a range of open discussions on issues and proposed solutions relating to flight safety and air navigation capacity, efficiency and other key performance areas of particular interest to the aviation community, but also which will bring great benefit to society in general.

The in-depth technical discussions at AN-Conf/13 will be guided by the Air

Navigation Committee (Committee A) and the Safety Committee (Committee B). These should result in realistic global plans and a work programme focused on the pressing and forecasted needs of international civil aviation, and all resulting recommendations will be submitted for review to the ICAO Council before being subsequently considered and endorsed by the 40th Session of the Assembly next year.

Because of the complementary aspects of air navigation and aviation safety planning and achievements, detailed reviews of the GASP and the GANP will feature very prominently at AN-Conf/13.

The GASP is reviewed and updated every three years prior to each session of the ICAO Assembly. Its new 2020-2022 edition, which will be discussed at AN-Conf/13, was developed through the exemplary efforts of the GASP Study Group (GASPSG), a joint regulatory

industry expert group which works to ensure that the Plan and its content reflect the needs of the aviation community at every governance and management level.

The six goals in the draft 2020-2022 edition of the GASP will both buildon and supersede the objectives in its 2017-2019 edition. States will continue to be provided with new targets and timelines with respect to their ability to assure effective safety oversight systems and State Safety Programmes (SSPs), while others place a greater emphasis on the management of operational safety risks.

of the presentations and workshops at the Global Aviation Gender Summit, particularly in the context of the glaring realization that men alone will not be available in sufficient numbers to fill these positions.

The Summit was co-organized by SACAA and ICAO, in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and UN Women. Its participants heard from many forceful women leaders, on why the **#TimeIsNow** for concrete actions and commitments for gender equality in global aviation.

While there were many aviation, education, and other perspectives on gender represented at this inaugural and quite incredible Summit, all were clear in their views that the next generations of women and girls will be playing a more and more important role in aviation's future, and that important work must be begun today to chart the course to their success.

One point which I strongly stressed at this event was that it is critical to our longerterm success that our agreed approaches be aimed at both governments and the private sector, and that in each case the need for strong commitments and leadership, at the highest levels, must be consistently underscored.

As the first female Secretary General of ICAO, I'm absolutely committed to UN system wide efforts on gender parity. ICAO will continue to leverage every opportunity for closer collaboration in this regard, whether among our close UN or air transport sector partners to help realize these goals. With the future of our sector at stake in many respects, we can no longer ignore the incredible potential of today's young women and girls, and of what they can contribute to the connectivity and sustainable prosperity of future civil societies.

"ICAO Air Navigation Conferences deliver critical decision-making and planning outcomes which can shape the course of the air transport sector and airspace management for years to come."

> With respect to the GANP, meanwhile, Member States will be asked to endorse a bold new multi-layered structure for its 6<sup>th</sup> Edition. This will be a comprehensive update to enable the evolution toward a performance-driven strategic planning environment, one which interacts with regional and national plans and implementation programs. It will feature a four-layer structure focused on 'Global Strategic,' 'Global Technical,' and then more traditional 'Regional' and 'National' planning and implementation action priorities.

These technical developments point to how complex our sector is, and to the need we face for more and betterskilled personnel to keep our global network running smoothly in the face of tremendous forecast growth. It's revealing that this very same message was very strongly reiterated in many

DR. FANG LIU

Secretary General of ICAO

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### **ICAO'S GLOBAL PRESENCE**





### 13TH AIR NAVIGATION CONFERENCE (AN-CONF/13)

9-19 October 2018 ICAO Headquarters,

Montréal, Canada

### THEME

From Development to Implementation

### AGENDA

In-depth technical discussions in the Air Navigation Committee and the Safety Committee, addressing realistic global plans and a work programme focused on the pressing and forecasted needs of international civil aviation.

### 11-Day Conference to Address **GANP** and **GASP** Updates, Plus Emerging Issues Such as Drones, High- and Low-Altitude Operations

The 13th Air Navigation Conference, in many respects, could be regarded as a prelude to the 40th Assembly. Many of the topics to be addressed next fall at the ICAO triennial are on the agenda this October – ranging from updates to the Global Air Navigation Plan (GANP) and Global Air Safety Plan (GASP) to emerging issues such as cyber resilience, remotely piloted aircraft systems (RPAS), low-altitude operations below 1000 feet and highaltitude operations above Flight Level 600.

In the following pages, we highlight some key agenda items, including GANP, GASP, safety management, the proposed Global Aviation Safety Oversight System (GASOS), and some innovative developments in highaltitude long-endurance (HALE) projects.

AN-Conf/13 was scheduled for this fall with an objective of discussing major technical topics far enough in advance of the Assembly so the ICAO Secretariat can align future budgets with the expected decisions. "This conference is an excellent opportunity for States and aviation stakeholders to engage and tackle some of these challenges together," remarked Capt. Claude Hurley, current President of the ICAO Air Navigation Commission (ANC).

Since the 39th Assembly in 2016, new classes of aircraft have emerged, ranging from small unmanned aircraft to unpiloted urban taxis, high altitude manoeuvrable balloons and hypersonic aircraft. These new entrants have significantly different operational characteristics and will place new

### **AGENDA ITEMS** | AN-Conf/13

### AIR NAVIGATION GLOBAL STRATEGY

- Vision and overview of the sixth edition of the Global Air Navigation Plan (GANP)
- Air navigation performance improvement and measurement through the aviation system block upgrades (ASBUs) and basic building blocks (BBBs) framework proposed GANP technical level
- Air navigation roadmaps
- Air navigation business cases

### **ENABLING THE GLOBAL AIR NAVIGATION SYSTEM**

- Aerodrome operations and capacity
- Integrated communications, navigation, surveillance (CNS) and spectrum strategy
- Future provision of aeronautical meteorological service

### **ENHANCING THE GLOBAL AIR NAVIGATION SYSTEM**

- System-Wide Information Management (SWIM)
- Flight and flow information for a collaborative environment (FF-ICE) and trajectory-based operations (TBO)
- Air traffic flow management (ATFM)
- Civil / military cooperation
- Other ATM issues Navigational reference system, Location indicators

### **IMPLEMENTING THE GLOBAL AIR** NAVIGATION SYSTEM AND THE ROLE OF PLANNING AND IMPLEMENTATION **REGIONAL GROUPS**

- The economic benefits brought by aviation
- Implementing Basic Building Blocks (BBBs) and minimum service standards
- Implementing Aviation System Block Upgrades (ASBUs) for performance improvement
- Implementing search and rescue (SAR) processes and procedures

### **EMERGING ISSUES**

- Operations above Flight Level 600
- Operations below 1000 feet
- Remotely piloted aircraft systems (RPAS)
- Cyber resilience
- Other emerging issues impacting the global air navigation system, including unmanned aircraft systems (drones), supersonic and commercial space operations

### **ORGANIZATIONAL SAFETY ISSUES**

- Strategic plan
  - > Vision and overview of the Global Aviation Safety Plan (GASP), 2020-2022 edition
  - > Enabling safety performance monitoring: goals, targets and

- indicators in the 2020-2022 edition of the GASP
- > Global Aviation Safety Oversight System (GASOS)
- Implementation of safety management
  - > State safety programmes (SSPs)
  - Safety management systems (SMS)
  - > Developing safety intelligence
- Monitoring and oversight
  - > The evolution of the Universal Safety Oversight Audit Programme (USOAP) continuous monitoring approach (CMA)
  - Support and the USOAP CMA Online Framework (OLF)

### **OPERATIONAL SAFETY RISKS**

- Facilitation of data-driven decision-making in support of safety intelligence to support safety risk management
- Operational safety risks at the global, regional and national levels, and the role of RSOOs and RASGs in achieving the GASP goals
- Other implementation issues global and regional implementation strategies

### **EMERGING SAFETY ISSUES**

- Measures to proactively address emerging issues
- Emerging safety issues

demands on the airspace system. Moreover, new technologies have emerged such as cloud computing, virtualization and artificial intelligence, as well as functionally agile radio systems. These issues will further drive the adoption of performance-based approaches to allow airspace users to choose the best technology available at a given time, for their particular needs. This will satisfy both the new and existing classes of airspace user.

### **AIR NAVIGATION COMMISSION EMPHASIS**

The ICAO Air Navigation Commission (ANC) is comprised of 19 persons who, as outlined in the Convention on International Civil Aviation (Chicago Convention), have

"suitable qualifications and experience in the science and practice of aeronautics." Commission Members, who act in their personal expert capacity, are nominated by Contracting States and are appointed by the Council of ICAO.

"The ANC is focusing this year on two themes, Implementation and Communications," said Hurley. "Both of these themes permeate all the work we do on behalf of the Council and the States."

Capt. Hurley, FRAeS, was appointed President last November, nominated by the Government of Canada. He has served as an ANC Commissioner at ICAO since 2014, was 2<sup>nd</sup> Vice-President in 2016 and 1st Vice-President in 2017.

"There are obstacles that States and regions face with regard to the full implementation of ICAO Standards and Recommended Practices (SARPs)," Capt. Hurley related. "As it looks toward improving how the ANC delivers implementable SARPs, the Commission's Vice-Presidents, Mr. Christian Schulthess and Mr. Jameel Metwali, have been given clear roles to lead the Communications and Implementation files, respectively."

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By helping to shape international legislation, improve operational safety performance and regulatory capacity, we're working to support the sustainable success and global confidence in aviation.





Safety is aviation's top priority. The Global Aviation Safety Plan (GASP), ICAO's strategy for the continuous improvement of aviation safety, aims to continually reduce aviation-related fatalities, and the risk of fatalities, by guiding the development of a harmonized safety strategy and the implementation of aviation safety plans at the regional and national levels.

ICAO has been working collaboratively with States and other key stakeholders to develop the 2020-2022 edition of the *GASP*, which will set forth ICAO's Safety Strategy for the next decade. A draft of the 2020-2022 edition of the *GASP* will be presented at the Thirteenth Air Navigation Conference, as part of the dynamic consultation process aimed at developing a meaningful and effective Safety Strategy.

### WHY IS THE GASP NEEDED?

To the travelling public, safety is a given on every flight. However, arriving safely at a destination requires continuous efforts from the aviation community. It is essential that States, regions (including regional entities such as the regional aviation safety groups (RASGs) and regional safety oversight organizations (RSOOs)) and industry (including international organizations and service providers) work together toward the goal of safe operations. In line with ICAO's Safety Strategic Objective, the GASP outlines key safety enhancement initiatives at the global level. The GASP

outlines roles and responsibilities for States, regions and industry in managing organizational challenges and operational safety risks. The global aviation safety roadmap, presented in the *GASP*, serves as an action plan to assist the aviation community in achieving the *GASP* goals through a structured, common frame of reference for all relevant stakeholders.

### WHY IS THE GASP UPDATED REGULARLY?

Aviation is an ever-changing and challenging industry. Therefore, the *GASP* is reviewed and updated every three years prior to each session of the ICAO Assembly. The draft 2020-2022 edition of the *GASP* was developed through the efforts of the *GASP* Study Group (*GASP*-SG), a joint regulatory industry expert group established by ICAO to ensure that the plan and its content reflect the needs of the aviation community at the international, regional and national levels.

### WHAT CHANGES ARE PROPOSED FOR THE GASP?

The draft 2020-2022 edition of the

GASP recognizes the needs of all aviation stakeholders. It promotes the implementation of safety management and a risk-based approach as tools to help manage increasingly complex aviation systems. It also encourages the use of harmonized safety enhancement initiatives to address gaps in effective implementation of the critical elements of a State's safety oversight system.

The draft 2020-2022 edition of the *GASP* has been restructured in two parts:

- Part one addresses safety planning, including the identification of organizational challenges and operational safety risks and the definition of roles and responsibilities of the different stakeholders within the GASP.
- Part two addresses implementation of safety enhancement initiatives aimed at improving safety. The GASP also includes an Executive Summary which provides the key messages to a State's senior management, in order to promote a better understanding and support of this strategic document.

### **GASP VISION AND GOALS**

The vision of the draft 2020-2022 edition of the *GASP* is to achieve and maintain the aspirational safety goal of zero fatalities in commercial operations by 2030 and beyond, which is consistent

with the United Nations' 2030 Agenda for Sustainable Development. The year 2030 has been selected as the timeframe for reaching this goal, as it is by this date that traffic volume is forecast to double.

A series of six goals in the draft 2020-2022 edition of the *GASP* support the overall aspirational safety goal and will supersede the objectives presented in the 2017-2019 edition of the *GASP*. Some derive from the 2017-2019 edition of the *GASP*, which called for States to implement effective safety oversight systems and State Safety Programmes (SSPs). Other goals respond to feedback from States and international organizations received during the consultation process to update the *GASP*, asking for a greater emphasis on the management of operational safety risks.

### WHAT RISKS SHOULD THE AVIATION COMMUNITY FOCUS ON?

To mitigate the risk of fatalities, States, regions and industry need to address hazards associated to events referred to as "high-risk categories (HRCs) of occurrences." ICAO determined the types of occurrences considered to be global HRCs (previously known as "global safety priorities") by looking at actual fatalities from past accidents, high fatality risk per accident, and the number of accidents and incidents.

# THESE HRCS HAVE BEEN IDENTIFIED FOR THE DRAFT 2020-2022 EDITION OF THE GASP:

- CONTROLLED FLIGHT INTO TERRAIN;
- LOSS OF CONTROL IN-FLIGHT;
- > MID-AIR COLLISION;
- > RUNWAY EXCURSION; AND
- > RUNWAY INCURSION.

# WHAT CHANGES ARE PROPOSED FOR THE GLOBAL AVIATION SAFETY ROADMAP?

The draft 2020-2022 edition of the *GASP* includes an updated global aviation safety roadmap. The roadmap presents globally recognized safety enhancement initiatives for States, regions and industry to address each of the *GASP* goals. A new operational safety risks portion of the roadmap is included in the *GASP* to assist States, regions and industry in addressing the five HRCs. This new portion of the roadmap suggests a structure to identify hazards associated with the HRCs and develop additional safety enhancement initiatives to mitigate the associated safety risks.

### WHAT IS EXPECTED OF STATES?

In line with the draft 2020-2022 edition of the *GASP*, each State will be encouraged to develop a national aviation safety plan,

### GOALS FOR THE DRAFT 2020-2022 EDITION OF THE GASP ARE PROPOSED: GOAL GOAL GOAL GOAL 6 2 5 GOAL GOAL 3 Achieve a Ensure the Expand the use of industry infrastructure is available to safety risks. State Safety support safe Programmes. 狼 ▝ **\*\***

in which the strategic direction for the management of aviation safety for a set time period will be presented. Each plan should be developed in line with the *GASP* goals, targets and HRCs. Several States, such as Australia, France and India, have already published national aviation safety plans.

### WHAT IS EXPECTED OUT OF THE AIR NAVIGATION CONFERENCE?

In December 2017, a draft of the 2020-2022 edition of the *GASP* was presented at the First Safety and Air Navigation Implementation Symposium (SANIS/1). The purpose of the presentation was to obtain feedback on then-proposed goals for the next edition of the Plan and obtain general feedback from

participants. The draft GASP was met with agreement by the audience and ICAO continued to refine the document. The draft GASP will be presented to the Thirteenth Air Navigation Conference to obtain wider feedback from States and international organizations. The outcome of the Conference will be taken into consideration when finalizing the 2020-2022 edition of the GASP. To ensure consistency between the GASP, other ICAO Global Plans and the ICAO Strategic Objectives, the Council will approve the final draft of the GASP. The final version of this edition will be presented to the 40th Session of the 

### **RESOURCES**

The draft 2020-2022 edition of the GASP (Doc 10004) can be obtained from the ICAO Website, at: https://www.icao.int/Meetings/anconf13/Documents/Doc\_10004\_GASP\_2020\_2022\_Edition.pdf

### MARTIN MAURINO, M.ENG.

Safety, Efficiency and Operations Officer ICAO Air Navigation Bureau (ANB)

### **GASP GOAL TARGETS**

ICAO Aspirational Safety Goal "Zero fatalities by 2030 and beyond"

Goal 4.1 States that need support in categories with safety oversight margins below zero, to use a regional safety oversight mechanism, another State or other safety oversight organization's ICAO-recognized functions

Goal 5.1 All Service Providers, Use Globally Harmonized Safety Performance Indicators (SPIs) as part of Safety Management System (SMS) **Goal 2.1** 75% of all States - Improve EI, Critical Elements, Safety Oversight System

**Goal 2.2** All States, Positive Safety Oversight Margin, All Categories

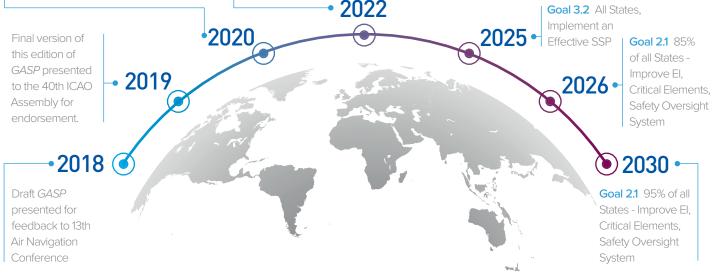
**Goal 3.1** All States, Implement Foundation of State Safety Programme (SSP)

**Goal 4.2** All States, contribute information, including Safety Performance Indicators (SPI), to RASG

**Goal 4.3** All States with Positive Safety Margin and Effective SSP to Actively Lead RASG Safety Risk Management Activities

Goal 5.2 Increase Number of Service Providers in Industry Assessment Programmes

**Goal 6.1** All States, Implement Air Navigation and Airport Core Infrastructure



### **GASOS**

## STRENGTHENING REGIONAL SAFETY **OVERSIGHT**

After nearly two decades of assessments - since ICAO launched the Universal Safety Oversight Audit Program (USOAP) in January 1999 – many States continue to struggle in complying with international aviation safety standards. Quite simply, in many cases, they lack the required resources and technical capacity.

With emerging aviation technologies and air traffic forecast to double over the next 15 years, the gap between safety oversight capabilities and industry evolution will only widen. This could negatively impact aviation safety.

In line with the strategic safety objectives of the draft third edition of the Global Aviation Safety Plan (GASP 2020-2022),

### AT A GLANCE

### **GLOBAL AVIATION SAFETY OVERSIGHT** SYSTEM (GASOS)

### **OBJECTIVE**

Strengthen State safety oversight capabilities by enabling delegation of certain functions or tasks to ICAO-recognized Safety Oversight Organizations (SOOs).

### **KEY POINTS**

- Voluntary system to assess competencies of SOOs
- States retain ultimate responsibility for safety oversight under the Chicago Convention
- Three levels Advisory and Coordination, Operational Assistance, Certification
- Phased approach beginning in 2020
- To be presented to the ICAO 40th Assembly in 2019 for endorsement

Visit icao.int/safety/GASOS for more information on GASOS.

ICAO and other aviation stakeholders are proposing a Global Aviation Safety Oversight System (GASOS) to further enable improvement of national and regional safety oversight capabilities. GASOS is a voluntary standardized-assessment and recognition mechanism for Safety Oversight Organizations • In addition to the level 2 type of (SOOs). This programme will provide States access to ICAO-recognized SOOs that can effectively assist them in the implementation of their safety oversight obligations. The results will allow for more efficient and effective use of limited resources and greater harmonization worldwide.

GASOS is expected to increase overall safety performance by:

- Increasing safety oversight capabilities for States through delegation of functions to SOOs, and
- Empowerment and strengthening of Regional Safety Oversight Organizations (RSOOs) and other existing mechanisms.

Under the proposed GASOS, it is envisioned that a State could delegate certain safety oversight functions at three different levels, which correspond to levels of authority or legal empowerment:

### **DELEGATION AT LEVEL 1:**

### **ADVISORY AND COORDINATING FUNCTIONS**

- Development of regulations for transposition into national or regional regulations system
- Assistance in the identification and notification of differences to SARPs
- Training of inspectors or experts
- Development of manuals, checklists and other guidance material
- Coordination of a pool of inspectors or experts
- Expert advisory services in any area of State safety oversight, safety management or safety investigation

### **DELEGATION AT LEVEL 2:**

### **OPERATIONAL ASSISTANCE FUNCTIONS**

- Conduct of inspections or full technical investigations aiming at supporting the decision to issue, maintain, amend or revoke a certificate, license or approval
- Conduct of surveillance activities, identification of safety deficiencies, recommendations for corrective actions (without enforcement powers)
- Conduct of parts of safety investigations (under Annex 13)
- Safety management activities

### **DELEGATION AT LEVEL 3:**

### **CERTIFYING FUNCTIONS. ISSUANCE** OF REGULATIONS, FULL SAFETY **INVESTIGATIONS**

- delegation, the delegation includes the actual empowerment to issue, amend or revoke certificates, licenses and approvals, i.e. the empowerment to issue certain legally binding decisions
- Empowerment to issue aviation safety regulations and to make them effective
- Conduct of full Annex 13 safety investigations including issuance of the investigation report and safety recommendations

ICAO will conduct a full assessment with a team of qualified experts, including USOAP auditors. Upon satisfactory assessment, ICAO will recognize the SOO and include it in a GASOS Directory.

More than 90% of RSOOs have expressed interest in becoming involved, and about 40 Member States could be directly eligible for GASOS.

To date, ICAO has completed a feasibility study confirming GASOS to be achievable; established a study group of experts to assist in its development; developed a concept of operations and implementation plan; identified risks and established a risk register; undertake a review to define and establish the appropriate legal framework for GASOS' implementation; and developed a business case. In the third quarter of 2018, pilot tests of the assessment mechanisms are expected.

A Working Paper is to be presented at the 13th Air Navigation Conference in October.

### **SAFETY**

# MORE TOOLS FOR SAFETY MANAGEMENT

The effective implementation of safety management requires new competencies across all sectors of the aviation system – from top-level management to operational personnel. In addition civil aviation authorities (CAAs) must support the development of enhanced competencies for civil aviation safety inspectors and address new required competencies. Aviation decision-makers need an awareness and vision of how aviation safety management can support their organization in achieving wider goals.

Since the initial establishment of ICAO Standards to implement a safety program nearly 12 years ago (applicable 23 November 2006), very few States have put in place a State Safety Program (SSP) or established Safety Management System (SMS) requirements for service providers.

The status of States' self-assessments suggests there is much work to be done. As of July 2018, 71.73% of Member States had created an SSP gap analysis project using the ICAO integrated safety trends analysis and reporting system (iSTARS) ... but only three States indicated completion of Level 4 - SSP Implementation Completed (1.57%). About half (50.26%) had completed Level 1/2 - Gap Analysis Started, and 30.37% had completed Level 3 - Implementation Plan Defined. Only 30 States completed at least half of the Universal Safety Oversight Audit Program (USOAP) SSP-related protocol questions on the online framework (OLF).

Since 2015, ICAO has also performed voluntary and confidential SSP assessments

of six States, collecting feedback on achievements and challenges related to safety management implementation. Challenges identified include:

- Coordination among relevant State authorities involved in SSP implementation
- Identification of the top safety risk areas
- Selection of relevant State safety objectives, safety performance indicators (SPIs) and targets (SPTs)
- Development of safety management competencies
- Addressing size and complexity aspects in SMS regulations
- Establishment of a safety data collection and processing system (SDCPS)
- Establishing an effective voluntary safety reporting system

Among ICAO's actions to provide further guidance and mechanisms to support SSP implementation, the Organization has:

- Developed the 4<sup>th</sup> edition of the Safety Management Manual (SMM, Doc 9859), made available as an advance unedited version in April 2018 while the final version is translated into the six UN languages. This effort has been supported by the Safety Management Panel, a group of experts from States and international industry organizations which also assisted in the development of the first amendment to Annex 19 (effective 11 July 2016 and applicable 7 November 2019);
- Developed a Safety Management Implementation public website – www.icao.int/SMI – which serves as a repository for the sharing of practical implementation examples and tools (including those related to safety

### SAFETY

## SAFETY MANAGEMENT IMPLEMENTATION

### **OBJECTIVE**

To safely achieve the aviation system of the future

### WHAT IS NEEDED

- Reinforcement of key safety management concepts
- Development of essential safety management competencies
- Development of mechanisms to monitor and assess the effectiveness of State Safety Programs (SSPs) and Safety Management Systems (SMS)
- Evolution toward an integrative approach to managing risk

oversight systems in support of the *No Country Left Behind* initiative);

- Invited States and international organizations to nominate a focal point for the submission of examples and tools for validation and subsequent posting on the public website;
- Delivered four Regional Safety
   Management Symposia and
   Workshops with the theme, "The
   Journey to Achieving Effective Safety
   Management" tailored to each region.
- At the 1st Safety and Air Navigation Implementation Symposium (SANIS/I) in December 2017, highlighted several areas where support is needed to achieve effective implementation of SSPs and SMSs, and to safely address the rapid technological changes, increasing complexity and innovative approaches taking place in the aviation industry.

Working Paper AN-Conf/13-WP/28, Support for Effective Safety Management Implementation, to be presented at the 13<sup>th</sup> Air Navigation Conference in October, states: "If we are to reap the benefits of a safety management approach, it is critical that we move away from insisting the SSP or SMS be implemented in a specific way and focus more on assessing whether the objectives for each activity or process are being achieved."

### **AIR NAVIGATION**

## NEW MULTILAYER STRUCTURE FOR GANP

The 39<sup>th</sup> Session of the ICAO Assembly in 2016 tasked the Secretariat with effectively communicating the *Global Air Navigation Plan (GANP, Doc 9750)*, the Organization's highest air navigation strategic document. At the next Assembly in 2019, Member States will be asked to endorse a bold new multi-layered structure for the 6<sup>th</sup> Edition of the *GANP*: a comprehensive update which will enable the evolution toward a performance-driven strategic planning environment and which interacts with regional and national plans and implementation programs.

The proposed new *GANP* features a four-layer structure comprised of global, regional and national layers:

### **LAYER 1: GLOBAL STRATEGIC**

This is the high-level global strategic direction to drive the evolution of the global air navigation system. It incorporates:

- a Common Vision
- Global Performance Ambitions
- a Conceptual Roadmap

### **LAYER 2: GLOBAL TECHNICAL**

This supports technical managers in planning implementation of basic services and operational improvements in a performance-based and cost-effective manner. It contains two frameworks:

- Basic Building Blocks (BBB) framework, the foundation for a robust air navigation system
- Aviation System Block Upgrades
   (ASBUs), outlining performance benefits expected from specific operational improvements

### **LAYER 3: REGIONAL**

This addresses regional and sub-regional needs aligned with global objectives, and includes the Regional Air Navigation Plans (ANPs).

### **LEVEL 4: NATIONAL**

Under responsibility of the States, this level focuses on national planning.

The proposed *Conceptual Roadmap* embraces transformational change in air

### Level 1 **GLOBAL PERFORMANCE** CONCEPTUAL **GLOBAL** VISION **FRAMEWORK AMBITIONS STRATEGIC** Basic Building **Aviation System** Level 2 **Blocks Block Upgrades** PERFORMANCE-BASED **GLOBAL BBBs ASBUs DECISION-MAKING TECHNICAL** Frameworks Method OTHER REGIONAL Level 3 INITIATIVES VOLI VOLII **VOL III REGIONAL** ANPS Level 4 NATIONAL PLANS DEPLOYMENT NATIONAL NATIONAL RESPONSIBILITY

# GLOBAL AIR NAVIGATION PLAN (GANP) PROPOSED 6<sup>TH</sup> EDITION HIGHLIGHTS

### **OBJECTIVE**

To drive the evolution of the air navigation system by providing global strategic objectives

### **NEW GANP PORTAL**

https://www4.icao.int/ganpportal/

GANP information available via a single user interface (in development)

DRAFT GANP Vision, Performance Ambitions and Conceptual Roadmap

https://www4.icao.int/ganpportal/ganpdocument

traffic management in four evolutionary steps and will be the basis for identifying new operational improvements for the ASBU framework:

- Flight operations in a digital-rich environment
- 2. Time-based operations enable by an information revolution
- 3. Trajectory-based operations enabled by full connectivity
- 4. A total performance management system focused on business/mission needs

"This approach tailors *GANP* more to the needs of States and the people in charge of implementation," said Mr. Saulo Da Silva, Chief Global Interoperable Systems Section at ICAO. "It also provides better guidance toward future development, as well as tools such as cost-benefit analysis."

The new *GANP* 6<sup>th</sup> Edition framework is expected to be stable for the next six years, Mr. Da Silva indicated, but with technical level updates every three years.

Multiple *GANP*-related Working Papers are published for discussion at the 13<sup>th</sup> Air Navigation Conference in October, including the multilayer structure, global technical level, air navigation roadmaps, Basic Building Blocks, Aviation System Block Upgrades, and global and regional implementation strategies.

# THE TIME IS NOW L'HEURE EST VENUE



ADVOCATING FOR GENDER EQUALITY AND FOR THE INCREASED PARTICIPATION OF WOMEN IN THE GLOBAL AVIATION INDUSTRY.

> TRANSPORTS CANADA EST HEUREUX DE S'ASSOCIER À L'OACI EN FAVEUR DE L'ÉGALITÉ DES SEXES ET POUR L'AUGMENTATION DE LA PARTICIPATION DES FEMMES DANS L'INDUSTRIE AÉRONAUTIQUE MONDIALE.





## **ACCELERATED CORSIA SARPS ADOPTION** HIGHLIGHTS SECTORAL CONVERGENCE **ON EMISSIONS MITIGATION PRIORITIES**

The ICAO Council made important progress on aviation emissions mitigation during its June Session earlier this year, adopting the international Standards and Recommended Practices (SARPs) supporting the Organization's Carbon Offsetting and Reduction Scheme for International Aviation, or 'CORSIA'.

The adoption of the CORSIA SARPs comes less than two years after ICAO States achieved historic agreement on the world-first offsetting framework at the 39th ICAO Assembly, and their accelerated adoption is seen as a clear testament to the high levels of government and industry support for more sustainable international operations.

A key aspect of the very successful conclusion of the 39th Session of the ICAO Assembly in October of 2016 was its landmark endorsement of ICAO's CORSIA offsetting solution, through the historic adoption of Assembly Resolution A39-3.

Referred to all over the world at that time as international aviation's 'Paris moment'. drawing reference to the milestone

Paris Agreement agreed at COP/21 one year earlier, the CORSIA adoption was appreciated as one of the most significant environmental achievements by any global industry sector.

This June the global momentum behind CORSIA was given a further important boost when the ICAO Council adopted the international SARPs to help get the

programme started per the challenging deadlines which States had established.

"Gaining agreement on this new Volume IV to Annex 16 to the Chicago Convention (Environmental Protection) is critical to helping States and airlines to operationalize CORSIA per its established deadlines," stressed ICAO Council President Dr. Olumuyiwa Benard Aliu.



ICAO Council President Dr. Olumuyiwa Benard Aliu and ICAO Secretary General Dr. Fang Liu take a moment to appreciate the landmark Council decision. The two ICAO senior officials had worked with great determination in the lead up to the meeting to ensure that sufficient international consensus could be forged in favour of the rapidly-determined new international Standards.

"This especially pertains to its monitoring, reporting and verification (MRV) scheme, which describes in detail what has to be done, by whom, starting with the collection of information on international aviation CO2 emissions by airlines as of 1 January 2019."

The CORSIA MRV provisions had been tested before their adoption, with the support of the Government of Germany and the active participation of six additional States and 10 airlines. Like every major aspect of the new ICAO programme, it has been extensively explained to States and operators through a comprehensive series of regional events hosted by ICAO and with the participation of State and industry expert.

A very noteworthy aspect of the CORSIA SARP adoption was the speed at which they were reviewed and approved through the ICAO process. This involves comprehensive review and assessment

stages for all of ICAO's 192 Member States, a process which normally takes 3-5 years to be completed. By contrast, the CORSIA SARPs were endorsed by Council roughly a year and a half after the Assembly approved their development.

"A significant amount of effort has been made at the global level to maintain momentum on the Assembly's decision and ensure that these CORSIA SARPs could be adopted within such a limited timeframe, not to mention setting-out the outreach and assistance required so that States and airline operators would be prepared to use them," commented ICAO Secretary General Dr. Fang Liu.

"ICAO will continue to actively assist our Member States in these and other CORSIA preparations and implementation. The Secretariat plans to organize a series of regional seminars in early 2019, which will focus on reporting and verification of CO<sub>2</sub> emissions from international aviation."

The June Council meeting also recognized that several States need targeted assistance to prepare for the implementation of the CORSIA SARPs, and that time was of the essence in this regard given that all States with operators performing international flights need to be ready to monitor fuel use and estimate their CO<sub>2</sub> emissions from 1 January 2019.

The Council accordingly endorsed the new Secretariat ACT-CORSIA (Assistance. Capacity-building and Training for the CORSIA) Programme, which will focus primarily on developing airlines' Emissions Monitoring Plans and the establishment of national regulatory frameworks for CORSIA.

ACT-CORSIA relies heavily on a 'Buddy Partnership' framework, designed to facilitate more effective delivery of this assistance from donor States to needful States, and ICAO organized provided a 'train the trainers' session in August to help ensure these activities are carried

out with due consistency from State to State and Region to Region.

"The CORSIA Buddy Partnerships will see approximately 15 donor States providing direct assistance to some 90 recipient States," said Jane Hupe, ICAO Deputy Director, Environmental Protection. "This demonstrates an unprecedented level of engagement and support by States in a very short time."

Also approved at the Council's meeting in June was the 2018 version of the ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT), which provides a simplified tool for small operators to monitor and report their CO2 emissions. The CORSIA CERT is an official tool referred to in Annex 16, Volume IV, and it will continue to be updated annually to include additional functionalities needed for CORSIA implementation.

Further agreement by the Council was also achieved around the specifics for a CORSIA Central Registry (CCR). The CCR will help States to upload and submit CORSIA-related data, and will enable ICAO to store the submitted data, calculate specific parameters, and provide relevant data back to States.

The Council's next steps will focus on ensuring that the remaining CORSIA Implementation Elements are kept on track, including the development of a



ICAO Air Transport Bureau Director Mr. Boubacar Djibo, and the Organization's Deputy Director for Environmental Protection, Ms. Jane Hupe, closely monitor the progress of the historic CORSIA Council Session.

process to ensure that carbon market programmes and projects can be evaluated against a robust set of criteria, leading to the decision on a list of Eligible Emissions Units for CORSIA.

Another key priority will be the completion of ICAO's work on CORSIAeligible fuels, including the development of life-cycle emissions values, robust certification frameworks, and sustainability criteria.

ICAO has also been making efforts to remind its State and industry partners that CORSIA is just one of several elements of the ICAO Basket of Measures to address CO<sub>2</sub> emissions from international aviation, and that further innovation in aircraft technologies, sustainable aviation fuels, and more streamlined operations will also be making valuable contributions to aviation's overall emissions response.



Representatives to ICAO's Governing Council applaud the important progress and consensus achieved after the CORSIA SARP adoption was confirmed.



At a Glance, some of the Achievements, Statistics and Events of 2017 (and 2018 thus far)

The International Civil Aviation Organization (ICAO) is a multi-faceted specialized agency of the United Nations, driving not only Standards and Recommended Practices (SARPs) for the global air transport sector but also resource and educational support to Member States in the form of technical assistance, events, training, and much more. Here is a high-level snapshot of a few of the many programs and activities that endeavor to improve aviation safety, security and connectivity.

- Membership in Aviation Safety Assistance Implementation Partnership (ASIAP) and contributions to SAFE (ICAO voluntary Safety Fund) increased in 2017
- SAFE funded 24 Technical Assistance Projects (6 new, 10 ongoing, 8 completed)
- Which increased El in the States by up to 30%
- 6 new projects to commence in 2018

- 1st SANIS
- 2<sup>nd</sup> GANIS and Global PIRG / RASG Forum
- 3rd ICAO World Forum

# EVENTS...

- Global average EI increased slightly
- SSCs reduced from 8 to 4
- No New SSCs
- Rapid response to crises in several States

- GASP
- GANP
- PIRGs
- RASGs
- RS00s (new Global Strategy)
- COSCAPs
- New Global Runway
  Safety Action Plan
  Safety Management
  Program

AND HARMONIZED GLOBAL AIR NAVIGATION **MODERNIZATION** 

- 13<sup>th</sup> Air Navigation Conference combining Aviation Safety and Air **Navigation Capacity** and Efficiency objectives
- New Global Aviation Safety Oversight System (GASOS)
- Revised editions of **GASP and GANP**
- Continuing development: Cyber Safety, RPAS / UAS, Lithium Batteries, Commercial Space, GADSS, etc.

# 2018



### **LOWEST NUMBERS OF**

- ACCIDENTS,
- **FATAL ACCIDENTS AND**
- **FATALITIES**
- on Scheduled Commercial Flights
- on Airplanes above 5.7 Tonnes

# AINING CENTRES (ASTCs)

Certified to deliver ICAO courses and workshops

Starting in 2018, all ICAO-sponsored training events hosted by an ASTC will be

### FREE OF CHARGE

**Universal Security Audit Program** (USAP) Continuous Monitoring Approach (CMA) includes

## L 192 MEMBER STATES

26 AUDITS in 2017

Validation Missions

# IMPROVEMENT PLANS (ASIPs) **SHORT-TO** MEDIUM-TERM,

**AVIATION SECURITY** 

for State capacity building

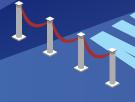
In 2017. **16 STATES** 

actively engaged in **ASIP** Implementation

Assessments

29 **Targeted Deliveries** of Assistance





# CURITY SYMPOSIUM

### **497 PARTICIPANTS**

from 87 Member States and 42 International Organizations and Industry Associations

to provide Targeted Aviation Security Assistance

**Comprehensive Regional Implementation** Plans for Aviation Security and Facilitation

FRICA - AFI SECFAL MIDDLE EAST - MID SECFAL

Cooperative Aviation Security Program

ASIA PACIFIC - CASP-AP MIDDLE EAST - CASP-MID

ICAO TRIP Technical Assistance Mission in four Caribbean States

# **ECONOMIC DEVELOPMENT**

- Published Aviation Benefits 2017 report with **Industry High Level Group**
- Joint Projects with Partners: United Nations Conference on Trade and Development (UNCTAD), Universal Postal Union (UPU), **World Customs Organization (WCO)** 
  - > eTrade for All
  - > eCommerce Working Group
  - > Big Data air connectivity analysis (2018)

### Events

- > 10<sup>th</sup> ICAO Air Services Negotiation Event (ICAN2017)
- > 2<sup>nd</sup> ICAO Meeting on the Sustainable **Development of Air Transport in Africa**
- > 2<sup>nd</sup> ICAO Meeting on Air Cargo Development in Africa
- > 3rd ICAO World Aviation Forum (IWAF2017)



## ENVIRONMENTAL PROTECTION

**LANDMARK - June 2018 ICAO Council Adoption of the First Edition of Annex 16, Volume IV** (CORSIA), an emissions-offsetting 1st for any global industry sector.

### CORSIA OUTREACH

- Global Seminar at ICAO Headquarters
- > Regional Seminars on State Action Plans in 12 venues (2017, 2018)
- Seminar on Greener Airports
- > Seminar on Carbon Markets (2018)
- > Seminars on Capacity Building on Aviation Low-Emission Measures (2018)
- > ICAO-European Union Capacity Building Seminar (2018)
- > Online tutorial, video and brochure on CORSIA Implementation in 6 UN languages
- > eLearning course and eBooks for ICAO-EU project
- > Guidance materials within the United **Nations Development Project (UNDP)**
- Sustainable Aviation Fuels studies launched in Burkina Faso, Trinidad and Tobago
- Installation of Solar Panels in Jamaica as SIDS example

### **MORE TO COME**

- ACT CORSIA Initiative training on the CORSIA Monitoring, Reporting and Verification (MRV) provisions and implementation tools
- CO<sub>2</sub> Estimation and Report Tool (CERT)
- Inauguration of Solar PV Systems for Emissions Reduction – Cameroon, Jamaica, Kenya
- ICAO Marginal Abatement Cost (MAC) Curve Tool to assess environmental benefits and costs for low-carbon technologies
- UNDP Low-Carbon Aviation Knowledge-Sharing platform

# **NEXT GENERATION OF AVIATION** PROFESSIONALS (NGAP)

- NGAP Global Summit
- Model ICAO Forum
- Support to Dreams Soar
- New Fundamentals of the Air Transport System course
- New Aviation Training and Education Directory
- Updated Aviation Personnel Forecasts
- UNESCO, ILO, UN Women, and ITU Joined NGAP

### **2018 PLAN**

- 2<sup>nd</sup> NGAP Summit
- Launch Network for Education and Research Institutions
- Framework for Aviation Education Program Accreditation
- New Graduate Aviation Management Program
- Publish NGAP Policy, Strategy and Guidance
- New Outreach Best Practices and Personnel **Forecasting Tools**

# NEW GAT TRAINING TOOLS

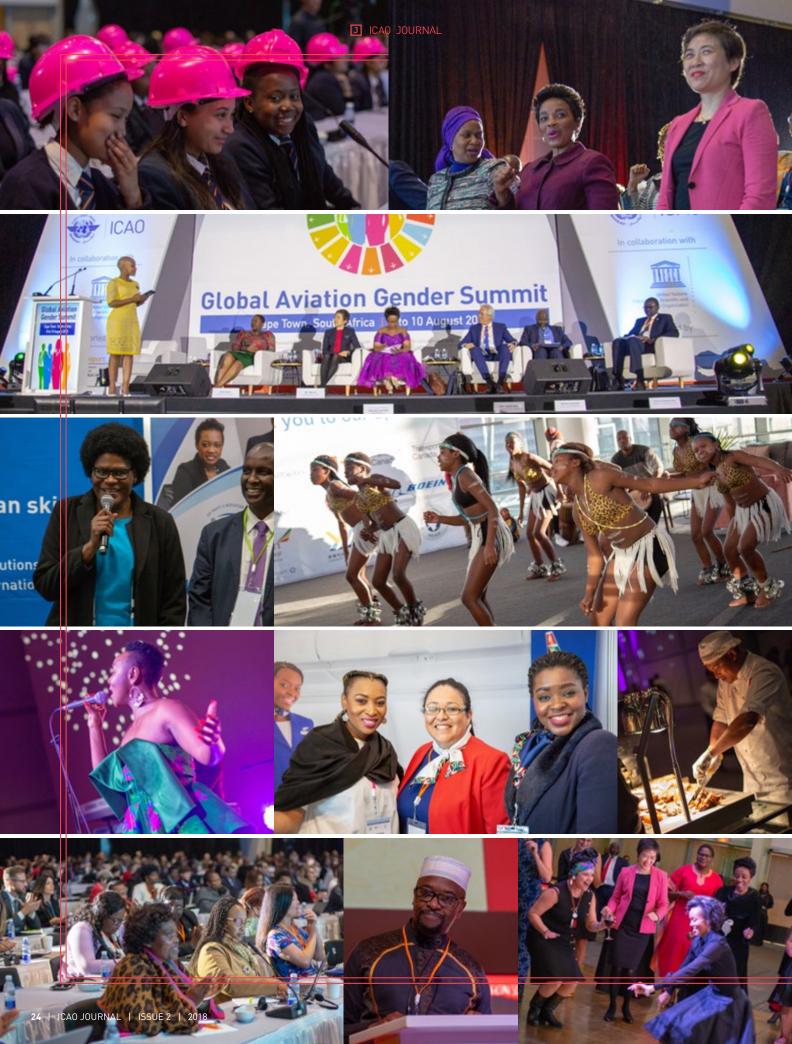
- Training Needs Analysis (TNA) Tool, web-based
  - > Aviation Training and Capacity-Building Roadmap
  - > Operational Performance Analysis
  - > E-learning / Classroom / Blended Training Taxonomy
  - > Job Task Analysis and Data Gathering **Templates**
- Control of the Authenticity and Validity of Travel Documents at Airport Borders training package
- Safety Management course for Practitioners
- Civil Aviation Authority Senior and Middle Managers training course
- ICAO TRIP Workshops on Border Control Management

### TRAINING SUPPORT

- Scholarships, starting in 2018, for Trainees from States endeavoring to meet / maintain El rates
- Reduction in TRAINAIR Plus Program annual membership fee
- Group pricing for Trainees from civil aviation regulatory bodies
- Group pricing for ICAO-Concordia University Certificate in Civil Aviation Management



ACHIEVEN



# GENDER SUMMIT EQUALITY

"In China, there is a proverb which states that women hold up half the sky. But in aviation today, whether we are talking pilots or airline CEOs, women are only making up a 20th of these positions."

Dr. Fang Liu, ICAO Secretary General

### **EVENT**

### **GLOBAL AVIATION GENDER SUMMIT**

8 -10 August 2018

Cape Town, South Africa

### **HOSTS**

ICAO and the South African Civil Aviation Authority (SACAA), in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and UN Women.

### AT A GLANCE

More than 500 participants representing ICAO Member States, airports, air navigation service providers, airlines, international organizations, educational institutions, aviationrelated professional associations, and other industry stakeholders.

In addition, more than 2,000 global viewers on YouTube livestream.

### THEME

#TimeIsNow

### **OBJECTIVE**

To mobilize the global aviation community in accelerating gender equality in aviation.

### **HIGHLIGHT**

Communique issued, establishing a roadmap of action aimed at accelerating gender equality and the advancement of women and girls in civil aviation.



In her keynote opening address at the Global Aviation Gender Summit, held in early August in South Africa, Dr. Liu said, "As a woman who has spent virtually her entire career in the service of international civil aviation, this is truly an exciting moment for me. Aviation already contributes greatly to peace, prosperity and sustainable development, all over the world; yet aviation can do even more for our society, and especially for women. In order to accomplish this, it must first become a better example of gender equality in action. We must address head-on why women are still underrepresented in the majority of the technical and executive positions in aviation. This summit should be seen as a key opportunity to explore the challenges and enablers to women's advancement across a variety of technical and scientific disciplines."

Although 50 percent of the personnel intake in the airline industry is female, as positions become more senior, the number of women starts to fall away. Fewer than 5 percent of airline CEOs are women and, according to the International Society of Women Airline Pilots, only 6.7 percent of pilots are female.

Dr. Liu added: "While the current imbalance may be a challenge to those of us already serving as professionals in this sector, it is also an important opportunity for the next generations of girls now completing their studies and entering the workforce."

The ICAO Secretary General stated that it is "critical to our longer-term success that our agreed approaches advocate among both governments and the private sector," and that in each case "the need for strong commitments and leadership, at the highest levels, must be consistently underscored."

South Africa's Deputy Minister of Transport, Sindisiwe Chikunga, said, "The time has come for all of us to vigorously challenge the status quo and in the process shift everyone's mindset, and alter the systems that have enabled the status to continue, namely education, media, social and organisational values. We simply have to dismantle all barriers and build enablers that would bring about equality in aviation."

### **CALL FOR SPECIAL MEASURES**

Representing Member States and the entire range of air transport sector operations, and bringing perspectives and insights from a range of civil society and United Nations agencies with strong gender equity mandates, the event's participants heard from a series of leaders on why the #TimelsNow for concrete actions and commitments for gender equality in global aviation.

Ms. Angela Gittens, director-general of the Airports Council International, said that the aviation industry must attract more women into the workforce to avoid the "impending crisis" of not having enough pilots. "The fact is that if you ignore half of the world's population, we'll never get there. Aviation in general has a difficult enough time luring the best and brightest over to our industry. It's not a track that girls and young women are particularly aware of. We need to reverse that."

Executive director of UN Women, Ms. Phumzile Mlambo-Ngcuka, called for special measures to be put in place to transform the aviation industry. She said of the low number of women in the industry: "There is something that needs to be done in terms of government policy and the enforcement thereof." However, the situation "should not be the problem of government alone, and of the young people who want to get into the industry. The industry, in all its formations, needs to work together (with the government) to solve the problem. Public policy must force them (airlines) to each produce a percentage of the required skills for the industry, and within that there must also be a set percentage for women."

Ms. Tendani Ndou, Principal of the ATNS Training Academy (a TRAINAIR Plus full member and ICAO Regional Training Centre of Excellence providing air traffic control training in Johannesburg, South





Africa), said, "It is time that we dissect the core of gender inequality, not only in the aviation industry but across all sectors."

Mr. Massimo de Luca, Head, Trade and Economics, European Union delegation to South Africa, stated: "If we improve gender balance, this will benefit all workers, including male workers. Studies show that organizations with inclusive cultures have greater innovation, creativity and results as well as a lower turnover. We need to use all talents for the future of this sector."

Some airlines are doing better than others. For example, Ms. Linda Gunnarsdóttir, Chief Pilot, noted that Icelandair's pilot corps is 12.8 percent female, the best among the world's airlines.

Mr. Alan Joyce, CEO of Qantas, said 40 percent of his direct reports are female, and the airline is putting in outreach

programs at schools to encourage girls to take courses in science, technology, engineering and mathematics. "It's up to every individual company to put these programs in place," Joyce said, adding that it results in the "best team, best outcome."

Air New Zealand has 40 percent female representation on the airline's board and is getting close to 50:50 in management, according to Mr. Chris Luxon, CEO.

Air Namibia acting managing director Ms. Mandi Samson noted that her airline has four females in management positions while three other airlines in Africa have female senior executives. "For once, Africa is leading in something," Samson said.

### ACCELERATING ADVANCEMENT

Mr. Vincent Smith, Bureau of Administration and Services, ICAO, outlined key outcomes from the Summit, including:

- Awareness and understanding of "unconscious bias" at the state, organization, cultural and individual level;
- Recognition of the need to shift mindsets to drive inclusive decision-making with a gender lens;
- Importance of the UN 2030 Sustainable Development Agenda, especially Goal 5 on Gender Equality and Empowerment of Women, to underpin the need to include gender and diversity in strategic planning.

The event concluded with participants establishing a roadmap of action aimed at accelerating gender equality and the advancement of women and girls. A communique was read by Ms. Chikunga. Dr. Liu also praised the South African partners for the landmark aviation gender event, congratulating and thanking Ms. Chikunga and the State's Director General of Civil Aviation, Ms. Poppy Khoza, for their support and leadership.

### **GENDER SUMMIT COMMUNIQUE**

The Global Aviation Gender Summit participants issued a Communique which:

- 1. Highlighted the urgency for global collection, analysis and sharing of gender-disaggregated data to inform policy makers and to drive action on gender-related policies and programmes in aviation;
- 2. Examined how culture, stereotypes and biases impact decisions related to gender and aviation at home, in schools and in the workplace, and underscored the need to take measures to eliminate or mitigate against these:
- 3. Encouraged States and the aviation industry to enhance the promotion of Science, Technology, Engineering, and Mathematics (STEM) education for girls, as a means of increasing girls' access to STEM education;
- 4. *Identified* the need to optimize the use of internships, fellowships, bursaries and other similar programmes to further opportunities for skills development for women in aviation at the national and international level through collaboration amongst ICAO, States, International Organizations and aviation industry partners;



- Recognized the need for the development of gender-responsive government legislation, such as pay equity, parental leave, violence against women, etc.;
- Promoted the development of organizational and workplace policies aimed to create enabling work environments for women in aviation, such as flexible working arrangements;
- Advocated for leadership and mentoring programmes and initiatives to support women in their career development and access to senior level positions;
- 8. Emphasized the urgent need to accelerate gender equality in aviation through partnerships with stakeholders sharing a common vision and goals on gender;
- Recognized that diversity and increased female involvement in research and technology will enhance the innovation capacity of organizations;
- 10. Welcomed the opportunity for ICAO to

- collaborate with UNESCO in Education and STEM to foster the development of a future talent pool of women in aviation;
- 11. Welcomed the opportunity for ICAO to collaborate with UN Women to promote the HeForShe campaign and to explore the feasibility of introducing the UN System-wide Action Plan on Gender Equality and the Empowerment of Women (UN-SWAP), to include national targets at the country level in select States, as a pilot project;
- 12. Reaffirmed the need for ongoing dialogue, monitor progress, share best practices in order to continue to build on progress to date, and to further accelerate gender equality and the empowerment of women in the aviation sector; and
- 13. Concluded that the endorsement of the road map by the ICAO Assembly would advance the implementation of Assembly Resolution A39/30 and globally accelerate gender equality and the empowerment of women in the aviation sector.

Video is available for each of the Gender Summit sessions at:

https://www.youtube.com/user/ICAOvideo

### These include:

- > Introduction and Opening Remarks
- Sessions 1: Transforming Gender Equality in Aviation
- Session 2: Transforming Gender Equality
   Through Addressing Unconscious Bias
   in Aviation
- Session 3: Gender Equality and the 2030
   Agenda for Sustainable Development
- > Session 4: Barriers and Enablers
- Cultural Stereotypes
- > Session 5: Barriers and Enablers
- Education (STEM)
- > Session 6: Barriers and Enablers
- Workplace
- > Session 7: Leadership and Gender Equality (Coaching and Mentoring)
- > Session 8: Thinking Ahead
- Gender Equality and Innovation in the Aviation Industry
- Session 9: Driving Results Through
   Partnerships for Gender Equality In Aviation
- Closing Session: Gender Equality in Aviation – A Roadmap for Action

REACH FOR THE SKY.

When we work together, we can do anything. Boeing is proud to help build communities where everybody has opportunities to succeed. And we salute those who create future opportunities for themselves and others.





### **SIDELINES:**

# DR. LIU MEETS WITH SOUTH AFRICA OFFICIALS

During her mission to address the Global Aviation Gender Summit, ICAO Secretary General Dr. Fang Liu also held a bilateral meeting with the Minister of Transport of South Africa, Dr. Bonginkosi Emmanuel Nzimande. Dr. Liu underscored to the Minister how ICAO-compliant air connectivity serves as a catalyst for sustainable development and the achievement of 15 of the 17 United Nations Agenda 2030 Sustainable Development Goals (SDGs).

Dr. Liu encouraged Minister Nzimande to ensure the prioritization of civil aviation development within South Africa's national economic development strategy, and especially as it relates to infrastructure planning and human resources capacity development.

The Secretary General also highlighted the importance of the opportunity to be an aviation leader in the region and support other African States in training and capacity building, as well as advocate for gender equality in aviation.

The Minister informed Dr. Liu that South Africa has joined the Single African Air Transport Market (SAATM) and that it would seek to play a regional leadership role in fostering the growth enabled by liberalization through the enhancement of aviation training provisions. He expressed his thanks to ICAO for its role in encouraging and enabling the sustainable development of aviation throughout Africa.

# Aviation is critical to the continued growth and prosperity of Qatar and to the well-being of its peoples.

In light of the anticipated growth of civil aviation world wide, the consequent shortage of skills in certain areas, and fundamental moral imperatives, Qatar believes that is pressing to more fully integrate women, at all levels, into the aviation world force. Qatar hopes to encourage and inspire women to accept these new challenges and opportunities within the industry.

Qatar was a proud participant at the Global Aviation Gender Summit held in South Africa from 8 to 10 August 2018 and fully endorses the roadmap adopted aimed at accelerating gender equality and the advancement of women in aviation. We look forward to continuing and facilitating this work within ICAO and other appropriate fora.





A case study on how the Brazil Policia Federal and aviation partners managed AVSEC and facilitated passenger flow during major events, including the Olympic Games and the World Cup.

From 2013 to 2016. Brazil hosted a series of major world events. The Olympic Games and Paralympic Games – Rio 2016. The FIFA World Cup 2014. World Youth Day in 2013, as well as the FIFA Confederations Cup. And the World Indigenous Games, 2015.

For effective facilitation to be ensured at major events, in a scenario of greater attention to Aviation Security (AVSEC) procedures, the Policia Federal, or PF, sought from the beginning the best possible integration with public and private institutions to enable extraordinary performances in the country's airports.

The combined efforts established a sense of security in the midst of a high operational level, and ensured the full transit facilitation of aircraft, crews, passengers, cargo and mail, even in the face of stiffening security procedures.

Following are some of the AVSEC challenges, procedures adopted, and lessons learned, provided by the Brazilian Delegation at ICAO.

### **BIG EVENTS, BIG EFFORTS**

Big efforts were required for major events to take place in a fluid and secure manner. Many Brazilian entities, public and private (in all spheres of government - national, district, state and municipal) had roles worthy of recognition in terms of public safety.

The major events brought specifically to the PF considerable responsibility at airports, where it assumed a leading role in the task of working in cooperation with other entities and institutions. The Policia Federal built solid bridges for concrete cooperation between international security agencies, as well as domestic security agencies, especially in the airport environment, counting on support from airport operators, aircraft operators, general aviation operators, and handling operators.

The PF is the only airport police, properly, in Brazil, as foreseen in the Federal Constitution (Article 144). It is understood that the performance of the airport police

in Brazil should be interpreted in comparison with the Brazilian Code of Aeronautics (Law 7565, articles 26, 31 and 38), which means that PF is therefore responsible for extensive police action in defence of the entire Brazilian airport system.

There are open questions about the iurisdictional boundaries of PF as an airport police (which also occurs in the international arena, in countries with police conformations similar to Brazil), especially in view of staff limitations and the context of growing concern with public security issues. In any case, there is a particular role of the PF which requires the adoption of a clear position as supervisor (and sometimes as executor) of national airport security, which is embedded in the broad concept of civil aviation security. It follows from the provisions of the National Civil Aviation Security Program (NCASP), published by Decree no 7168/2010, particularly in Article 12.

In addition to the supervisory function, PF was invested with a number of other AVSEC assignments, also described in NCASP, which sometimes refer to the action and coordination functions in the face of acts of unlawful interference or refer to the possibility



of carrying out AVSEC activities, usually entered in the greater spectrum police ops.

### **AVSEC PERFORMANCE** AT MAJOR EVENTS

For the major events planned for the years 2013 to 2016, Policia Federal had organized itself for deployment at the main airports of Brazil to carry out continuous patrols and supervision of the access control points to the security-restricted areas. There was, therefore, an immense allocation of PF uniformed personnel in the main airports of Brazil during the major events that resulted in the expected deterrent effect, either in relation to acts of unlawful interference or to all types of criminal activity during those periods.

The large number of PF staff, however, did not mean a substantial increase in search procedures (people, vehicles and locations) at airports; in fact, the planned security measures, as well as usual AVSEC police procedures, remained unchanged at all events except during the Rio 2016 Games. For all major events, therefore, there was an excellent level of facilitation, despite the substantial increase in airport security federal agents. There was a good impact in the sense of a high level of security on the part of airport users too.

### **AVSEC PERFORMANCE AT RIO 2016**

The period leading up to the Rio 2016 Games corresponded to a scenario of growing internal and external threat, which naturally produced the need to implement additional security measures. These challenges also could not be allowed to undermine facilitation, since the success of the 2016 Olympic and Paralympic Games in Rio de Janeiro was closely linked to the efficient operational capacity of the Brazilian air network.

Under the pressure of a significant escalation of threats, the AVSEC system in Brazil for the Rio 2016 Games period underwent dramatic changes that resulted in the need for the PF, as supervisor of that system, to quickly adapt its mitigating capacity. Essential patrols and rigid supervision, made possible by the allocation of many federal police at airports, would no longer be sufficient; the situation required more involvement.

PF realized that it would be necessary to innovate and raise the level of attention of AVSEC in four specific axes: landside, airport operators, aircraft operators, and general aviation (here understood as all flights except regular commercial flights and charters).

### **LANDSIDE**

The Circular Official Message MOU n° 021/2016 established the guidelines for Policia Federal's AVSEC operations in relation to the landside of the airports for the Olympic and Paralympic Games - Rio 2016. Patrols on the landside, including necessary searches of people, vehicles and locations, took place in an integrated way, through the coordination and effective participation of the PF, shoulder-to-shoulder with elements of the Armed Forces, Federal Highway Police, Civil and Military Police Agencies of the States and Federal District, Municipal Guards, Local Traffic Control and airport operators of the main airports in Brazil.

Despite the intense activity on the landside of airports, it was not necessary to adopt more stringent measures such as the establishment of access control points to

areas of large conglomerates of people, such as check-in or parking.

### **AIRPORT OPERATORS**

The Official Circular Message MOU n° 029/2016 established the guidelines for PF's AVSEC operations in relation to airport operators. The standard was edited in support of the National Civil Aviation Agency (ANAC) standard (IS n° 107-001 and DAVSEC n° 02.2016) that established, for the main Brazilian airports, the need for manual random search (or use of body scanners) as a way to mitigate threats based on the use of nonmetallic objects for the practice of acts of illegal interference (e.g. explosive liquids and sharp objects made of porcelain).

PF, during the period immediately prior to the beginning of Rio 2016, was able to closely supervise the performance of the security control for access to security restricted areas, supporting the Civil Aviation Protection Agents (APAC) contracted by airport operators for manual searches of passengers, under previously defined random criteria.

### **AIRCRAFT OPERATORS**

The Official Circular Message MOU n° 030/2016 established the guidelines for PF's AVSEC operations in relation to aircraft operators. The standard was a PF initiative, with the support of the National Civil Aviation Agency (ANAC), to obtain, by the main domestic airlines, a voluntary commitment to mitigate risks related to threats to domestic flights.

The security requirements for aircraft, hold baggage and cargo for domestic flights in Brazil, at the time of the Olympic and Paralympic Games - Rio 2016, were not the same as for international flights, in full compliance with Annex XVII of the Chicago Convention.

However, as the threat scenario was becoming more worrying, the Servico Aeropolicial da Polícia Civil do Estado do Rio de Janeiro (SAER), the PF's airport security service, sought to raise awareness

among the major domestic airlines in forums organized by the Civil Aviation Secretariat (SAC) on the need to implement security which could reach aircraft, hold baggage and cargo on several domestic flights that would have the main airports of Brazil as destination, origin or transit. The PF realized that if the airlines themselves organized and presented a security plan that would implement additional security measures compatible with increased threats to the period, there would be no need for further State interference which could otherwise be detrimental to the facilitation.

Not surprisingly, given the high level of commitment shown by the AVSEC areas of the main Brazilian airlines, four operational plans were submitted to the Policia Federal, which met AVSEC's demands for domestic flights to the last major event. These inspection plans were sent to the PF at headquarter and sequentially to the PF at airports for final adjustments, which resulted in tremendous benefits for facilitation in the end.

### **GENERAL AVIATION**

The Official Circular Message MOU n° 031/2016 established the guidelines for PF's AVSEC operations in relation to general aviation operators. The standard was edited in support of the Brazilian Air Force (FAB) standard (AIC-07/2016 - Aeronautical Information Publications) that restricted the use of Brazilian airspace during the competitions in a very surgical way.

The Forca Aerea Brasileira (FAB), in a great effort of planning, mapped the Brazilian airspace in relation to the airports involved in the Rio 2016 Games and restricted some overflight areas, distinguishing them in white, yellow and red. The "white area" did not mean prohibiting overflight, but closer monitoring by air defense; the "yellow area" meant that the overflights would be conditioned to the AVSEC procedures in the ground; and the "red area" represented where overflight was prohibited.

The previously registered, international and domestic scheduled and commercial flights were not limited so that, for the general public, facilitation related to airspace control was not changed.

In fact, the great novelty was the possibility of general aviation flights in the yellow areas, when activated, ensuring a greater level of facilitation for these operators while requiring some additional security measures to mitigate the risks posed by some specific threats. Such measures were related to:

- Security of the facilities,
- Security of the occupants of the aircraft (passengers and crew),
- Security of baggage (hold baggage and cargo, if there were),
- Security of catering,
- Security of the aircraft.

With the effective participation of all those involved in the process, a pragmatic solution was reached with great involvement of the private sector. Some trials were conducted in airports (hubs) in which the accredited GA flights could act, which generated familiarization.

### INNOVATION IN A COOPERATIVE **ENVIRONMENT**

Coordination of the airport environment in major events was also very well organized: internally by the PF, through a unit specifically created for this purpose (Coordination of Major Events - CGE), externally, through the Special Operations Committee (CTOE) and the Civil Aviation Security Committee (CTSAC) of the Civil Aviation Secretariat (SAC).

The CTOE and CTSAC allowed the Policia Federal to establish and formalize its lines of strategic actions in proper harmony with the actions of other operational and security agencies that also operate at airports; even in the face of a scenario of intense flow of tourists, authorities, sportsmen and their equipment (including countless authorized weapons) and all kinds of borderline situations.

It was within the framework of the CTOE and CTSAC that the PF was able to innovate and also support the innovations of other agencies (especially the ANAC and the FAB) in the AVSEC scene of the last major event,

"... if the airlines themselves organized and presented a security plan ... there would be no need for further State interference."

the Olympic and Paralympic Games - Rio 2016, which could, due to its more complex characteristics and by the escalation of the threats of the time, be placed at a level of greater difficulty.

### **EFFICIENT AIR OPS IN A THREAT ESCALATION SCENARIO**

Three major assertions stand out as essential for the efficient operation of air operations within a threat escalation scenario and under the implementation of additional security measures:

1. Allocation of additional staff for AVSEC purposes should not mean a loss of facilitation but rather the possibility of a broad mitigation of deterrence-based threats as well as a better response capacity (which also aims to ensure better facilitation);

- 2. Well-coordinated cooperation between all actors with AVSEC responsibilities and interactions is essential for maintaining a high level of facilitation;
- 3. The change in the threat landscape and the need for additional security measures with a low impact on facilitation require innovations that can only be designed and produced in clearly defined and tested cooperation and coordination environments.

It is worth noting that Brazil does not disguise the pride of having contributed so relevantly to the exciting celebrations and sports competitions that are part of a pleasant memory of mankind, knowing this happened through the intense, safe, effective and fundamental use of air transport.



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## **ICAO AND CHINA** PARTNER ON NEW TRAINING **COURSE FOR CAA MANAGERS**

ICAO Secretary General Dr. Fang Liu delivers welcome remarks at the inaugural session of the UN aviation agency's newly developed Civil Aviation Authority Senior and Middle Managers Training Course: Managing Compliance with ICAO Standards and Recommended Practices (SARPs).

At a special ceremony in early August of this year, ICAO Secretary General Dr. Fang Liu was joined by the Consul General of China in Montréal, Mr. Xueming Chen, for the official launch of the UN aviation agency's new Civil Aviation Authority Senior and Middle Managers Training Course.

Funded by the Government of China under its South-South Cooperation Assistance Fund, the new course directly supports the key priorities of ICAO's No Country Left Behind capacity-building initiative, in addition to the wider implementation of competency-based training.

"Providing this type of quality training, which has such clear tie-ins to States' ultimate realization of the UN Sustainable Development Goals (SDGs), is directly in line with ICAO's core commitment to support our Member States in their design and oversight of safe, secure, efficient, economically sustainable, and environmentally responsible air transport systems," highlighted Dr. Liu.

She added: "I am very encouraged that this ICAO-China partnership is delivering concrete benefits to the air transport sector, and in clear recognition of the tremendous socio-economic benefits which States can realize once they establish ICAO-compliant international connectivity."

Consul General Chen reinforced this sentiment, noting "the training course today is obviously an early harvest" of the cooperation between ICAO and the Chinese government.

"The Chinese government is now actively propelling 'the Belt and Road Initiative' from concept to reality," Mr. Chen declared. "I believe the overall objectives of 'the Belt and Road Initiative' have a lot in common with ICAO's 'No Country Left Behind' Initiative, and that China and ICAO can work together on aviation capacity building. This will serve to enhance civil aviation safety and security oversight capabilities, as well as to meet the increasing needs for aviation managers and professionals."

Organized by ICAO's Global Aviation Training (GAT) Office, the new CAA manager's course has been designed to enhance participants' understanding of effective safety and security oversight systems and the relevance of rules and procedures for the implementation of ICAO Standards and Recommended Practices (SARPs.)

Participants from six States in ICAO's North American, Central American and Caribbean (NACC) Region, as well as from China, attended the preliminary CAA managers course session, benefitting from an array of technical and management skills to support their States' improved compliance with ICAO's global Standards. This session, at ICAO headquarters in Montréal, was held from 30 July to 3 August 2018, while a second session, took place several weeks later, from 27 to 31 August, in Abuja, Nigeria, which included the participation of trainees from seven States in the region.

"I am very encouraged that this ICAO-China partnership is delivering concrete benefits to the air transport sector, and in clear recognition of the tremendous socio-economic benefits which States can realize once they establish ICAO-compliant international connectivity."

Dr. Fang Liu, ICAO Secretary General





Participants to the ICAO HQ course session (top) and the Abuja course session (bottom) after completing their new training. Many provided very positive feedback, as well as comments which will help ICAO continuously improve course content and delivery.





Consul General of China in Montréal, Mr. Xueming Chen (left) and Mr. Meshesha Belayneh, Deputy Director of ICAO's Technical Cooperation Bureau and Chief of its GAT activities, were on hand for the special Montréal ceremony celebrating the ICAO-China cooperation which made the new CAA managers course possible.

This initial phase of the training package will eventually be delivered globally by January 2019, across 20 locations, and in English, French and Spanish, with scholarships being provided to all 500 anticipated trainees.

Commenting on the scope and objectives of the new CAA training course, the Deputy Director of ICAO's Technical Cooperation Bureau, and Chief of the

GAT Office, Mr. Meshesha Belayneh, highlighted that "this training marks an important milestone for ICAO, as it is the Organization's first course, from a catalogue of over 160 courses, fully dedicated to enhancing the competencies of CAA /managers."

CAA manager participants had a variety of positive comments to share, both during and after the Montreal and Abuja course

much of the content new and of practical value to their day-to-day work challenges. Some trainees also highlighted the need to include additional aviation security content, as well as adapt the case study to one State only, including examples of deficiencies

sessions. They found the introductions

comprehensive and helpful to drawing

links among the various topics covered, the

instructors informative and enthusiastic, and

ICAO for its part is assessing these inputs, and refining the courses to achieve constant improvement in subject matter content and delivery.

faced by States in a general way.

"Just like the managers we are supporting with this particular course, ICAO also continuously encourages our Member States to share their updated training needs with us," Belayneh concluded. "This is critical to our effective planning, as it enables us, along with our training partners, to develop tailored and practical competency-based training." []

"This training marks an important milestone for ICAO, as it is the Organization's first course, from a catalogue of over 160 courses, fully dedicated to enhancing the competencies of CAA managers."

> Mr. Meshesha Belayneh Deputy Director, ICAO's Technical Cooperation Bureau Chief, ICAO Global Aviation Training (GAT)







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# **NEW UK CAA INTERNATIONAL GROUP DELIVERS TRAINING TO** STATES WORLDWIDE

As a mature aviation regulator, the UK Civil Aviation Authority (UK CAA) has a responsibility to support ICAO to ensure that all Member States have access to the benefits of safe and reliable air transport services. Since its formation in 1972, UK CAA has provided support to States around the world, sharing best practice in aviation regulation and raising global aviation standards. Over the years, the UK CAA has made key contributions to ICAO and EASA working groups and panels, helping shape international aviation legislation.

Dr. Fang Liu (seated left), ICAO Secretary General, and Mr. Ben Alcott (seated right), UK CAA International Director, sign a training cooperation agreement to support ICAO's No Country Left Behind initiative.

Last year, the UK CAA established a new department, the International Group (IG), bringing all the CAA's international work under a single umbrella. The IG is committed to supporting ICAO and the sustainable success of air transportation by raising the standards of aviation across the globe, to protect those who choose to fly, as well as those who don't.

As part of the International Group, CAA International (CAAi), the UK CAA's technical cooperation and training arm, has been working with ICAO, industry and fellow aviation regulators around the world for many years, to help States improve their regulatory oversight and international compliance in accordance with ICAO Standards and Recommended Practices

In 2017, CAAi became a registered social enterprise and committed to reinvest any profits back into aviation development programmes across the globe. As defined by Social Enterprise UK, a social enterprise is a business set up to change the world. Like traditional businesses, they aim to make a profit but it's what they do with their profits that sets them

apart - reinvesting or donating it to create positive social change.

Essentially, raising funds to inject investment back into global aviation is at the heart of everything CAAi does. Typically, the regions and developing countries that have the greatest need for outside support have the least funding available. By funding and deploying UK CAA expertise and resource to where it is needed most, the UK CAA is much better positioned to help develop those who will lead the aviation world of tomorrow, and ultimately, make the biggest positive, sustainable impact we can to global air transport regulatory development.

Ms. Maria Rueda, Managing Director for CAAi, said, "A lot has changed in aviation since CAAi's inception over 10 years ago. With more flights than ever leaving the UK and passenger demand expected to double over the next 20 years, it was important that CAAi evolved to make the biggest positive impact to global aviation standards. Becoming a social enterprise was the logical next step in our journey of raising aviation standards across the world and being a part of the UK CAA International Group".

#### **HOW CAAI TRAINING SUPPORT WORKS**

Since becoming a social enterprise, CAAi has initiated and funded several aviation development programmes to support ICAO goals.

In December 2017, ICAO signed a training cooperation agreement with the UK CAA to support its No Country Left Behind initiative. Under the agreement, CAAi is providing places on its training courses free-of-charge to aviation personnel from designated Member States, to help enhance the regulatory capability in developing countries.

The agreement was signed during the GANIS / SANIS symposium at ICAO's headquarters in Montréal by the ICAO Secretary General, Dr. Fang Liu, and the UK CAA's International Director, Mr. Ben Alcott.

During 2018-19, CAAi will host 29 fellowship places on its training courses, covering a wide range of regulatory oversight disciplines, including Airworthiness, Flight Operations, Dangerous Goods, Cabin Safety, EASA Part M Continuing Airworthiness and EASA Part 145.

Ms. Rueda said, "Increasingly, the regions and developing countries with the greatest demand for this type of training have the least funding available. As a mature aviation regulator and in accordance with ICAO's No Country Left Behind programme, the UK has a responsibility to support ICAO in ensuring that all Member States have access to the benefits of safe and reliable air transport services. Through this programme, ICAO can now target UK CAA training where it is needed most, to equip fellow aviation Regulators with the necessary skills and competencies needed to provide

effective safety oversight of their industry in accordance with ICAO standards."

This agreement has solidified the partnership between the two organizations and will result in the enhancement of the UK CAA's provision of capacity-building in aviation safety and security areas in States requiring technical support. Noting the importance of encouraging the development of similar partnerships with other member States, ICAO thanked the UK CAA for its exemplary demonstration of generosity as formalized in the partnership agreement.

The agreement is directly in line with ICAO's No Country Left Behind initiative, the goal of which is to ensure all States have access to the significant socio-economic benefits offered by ICAO-compliant air connectivity. Enabling a more targeted and efficient way of delivering technical support to States in need, the partnership also supports the future sustainability of the international

"... raising funds to inject investment back into global aviation is at the heart of everything CAAi does."

civil aviation network as it prepares for a forecasted doubling of air traffic volumes within the next fifteen years.

#### TRAINING DELIVERED TO DATE

In April, CAAi and ICAO welcomed its first delegates to London under this programme from Azerbaijan, Albania and Togo to attend Airworthiness Inspector Theory and Advanced Safety Management – Evaluating for Effectiveness training courses.

#### OTHER UK CAA INITIATIVES WITH ICAO

Risk-Based Surveillance: Earlier this year, ICAO held a series of Risk-Based Surveillance workshops in Lima, Kigali and Singapore. The workshops explored the implementation of Risk-Based Surveillance (RBS) as a tool that allows States to make more efficient use of their resources and achieve better results.

As one of the world's first aviation regulators to implement risk-based surveillance, UK CAA experts were invited as "event partners" to contribute to the workshops. In Lima, the UK CAA's Mr. Mark Vincent delivered four presentations to ICAO SAM Member States that explored the UK's approach to risk-based surveillance, the benefits the UK have seen, the limitations of prescriptive surveillance and the enablers for performance and risk-based surveillance.

Thailand: In 2017 ICAO lifted a Significant Safety Concern (SSC) on Thailand that was issued in 2015 over inadequate safety oversight of Thai-registered international airlines. This led to restricting Thai carriers flying into the United States, Japan, South Korea and China. With more than 20 percent of Thailand's GDP dependant on travel and tourism, it was crucial for Thailand to address the safety concerns. Furthermore, with over 800,000 people flying from the UK to Thailand each year, the UK CAA were committed to help raise the safety standards in Thailand for the interest of the travelling public.

CAA International, the technical cooperation and training arm of the UK CAA, worked on the ground with the Thai authorities to lift the

"red flag." CAAi helped draft new procedures to address gaps in compliance. CAAi helped CAA Thailand recertify all Thai international carriers and provided on-the-job training for Thai inspectors to ensure future sustainability.

Since the SSC removal, Thai airlines have been allowed to expand their international network, giving passengers more choice and value. In Q1 of 2018, Thai Airports reported a 21 percent profit increase, boosting the national and local economies that heavily rely on tourism.

Dr. Chula Sukmanop, Director General of CAA Thailand, said, "CAAi has played a very big part in our success from the very beginning. The system they suggested for the recertification process and their assistance in its implementation paved the way for our completion of the actions to resolve the Significant Safety Concern, leading to the lifting of the red flag."



Lima Risk-Based Surveillance Workshop
– (left to right) Representatives from
Transport Canada, EASA, CAA Singapore,
DGAC France, UK CAA and ICAO.

NO COUNTRY LEFT BEHIND

Delegates from 14 States at CAAi-delivered Aerodrome Certification course in Nairobi.

#### THE UK CAA **RELATIONSHIP** WITH ICAO

Historically, the UK CAA has played an important part in the international regulatory system; key to this is the UK CAA's engagement with ICAO. Over many years, the UK CAA has established excellent working relationships with ICAO that have contributed significantly to the development of many of the rules that govern global aviation. The UK has helped shape and influence the development of international standards and cooperative working arrangements.

#### PARTICIPATION IN PANELS, STUDY **GROUPS AND TASK FORCES** – The UK

CAA has and continues to be active in many ICAO Panels, Study Groups and Task Forces. Currently the UK CAA has representatives who actively contribute to Montréal-based Panels and their Working Groups, as well as on a multitude of Study Groups and Task Forces, exerting substantial influence at a global level on technical developments in their area of expertise. The UK CAA also actively engages at the regional level with the European PIRG, RASG and Planning groups run by the Paris Regional Office. In addition to representing the UK, CAA colleagues chair several Panels, Groups and Workshops. In particular, the UK Chaired the Safety Management Panel when the first edition of Annex 19 - Safety Management was being drafted, as well as the Remotely Piloted Aircraft Systems Panel when the SARPs, procedures and guidance material for remotely piloted aircraft systems (RPAS) were being developed. The UK CAA is currently an active Member of the Global Aviation Safety Oversight System Study Group (GASOS SG), supporting the establishment of the GASOS framework as well as the Global Aviation Safety Plan Study Group (GASP SG).

**AIR NAVIGATION COMMISSION** – For many years, a CAA employee has been the UK's nomination on the Air Navigation Commission, and on several occasions our representative has subsequently been elected for a term as President of the Commission.



The objective of the training was to provide a comprehensive overview of the processes and procedures established by ICAO and the European Aviation Safety Agency (EASA). Both courses aimed to enhance delegate's skills and knowledge within the relevant subject area.

Mr. Kokouvi Afelete N' Bouke. Directeur Gestion de la Sécurité for Togo Civil Aviation Authority, said: "I would like to thank the UK CAA and ICAO for this opportunity. The course has covered all the expected objectives and has offered valuable knowledge about the evaluation of the four components of SMS including SRM and SPM. We have also discussed the Phase 2 tools that the UK CAA uses to evaluate the effectiveness of an operator's or a services provider's SMS. Some of my favourite moments were group discussions during the practical exercises when we were sharing our experience. I am definitely leaving with plenty of new skills and will use them in my role within our CAA."

In April, CAAi delivered an Aerodrome Certification course for 36 delegates from 14 African countries in Nairobi. The training was fully funded by CAAi. The training was delivered with the assistance and cooperation of the ICAO Eastern and Southern Regional Office and the support of the Government of Kenya and the Director General of the Kenya Civil Aviation Authority.

As of December 2016, only 21 percent of aerodromes in Africa were certified to ICAO standards. Moreover, Aerodromes and Ground Aids in Africa represent the lowest level of the Effective Implementation out of all ICAO Critical Areas.

The Chief Implementation and Planning Section of the ICAO Air Navigation Bureau proposed the project, and CAAi was delighted to support. Delivered by UK CAA Aerodrome Regulators Mr. David Macmillan and Mr. Tom Murney, the training covered the "Understanding of Aerodromes" contained in ICAO Annex 14, Safety Management Systems within Aerodrome Operations and Aerodrome Certification. The training aimed to improve regulatory oversight capability in the region.

Ms. Kirsten Riensema, the Air Navigation Commissioner and UK Alternate Representative to ICAO said: "The ICAO Air Navigation Commission regularly reviews reports from the Regional Aviation Safety Groups (RASGs) and Planning and Implementation Regional Groups (PIRGs) and we note the need for aerodrome certification competence in regulators across the globe. It is forecasted that by 2036, Africa will see an extra 274 million passengers per year. It is therefore very important that we continue to support and create opportunities for development of aviation professionals in Africa, who can use their aviation skills to support this level of growth by creating and maintaining a safer aviation regulatory framework."

Working with ICAO, CAAi invited delegates from developing countries with the highest potential of creating a lasting impact on safety in African aviation. The course attracted delegates from Angola, Botswana, Chad, Comoros, Ethiopia, Kenya, Madagascar, Namibia, Niger, Seychelles, South Africa, United Republic of Tanzania, Zambia and Zimbabwe.

Following the success of this initiative, ICAO and CAAi are planning a second fully funded course in Singapore in September 2018. With more than 12 million people flying from the UK to ICAO's Asia-Pacific region in 2017 alone, this training presents a valuable opportunity to target training where aerodrome oversight deficiencies have been identified by ICAO. J

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Yes, pigs do fly. Turkeys, too. At least some have on commercial airlines. In the passenger cabin. Also marmoset monkeys, miniature Appaloosa horses, and Donald's cousin, Daniel Duck. But no boarding pass for a peacock that wanted to preen in the premium section.

Some species are in the category of "service animals," dogs primarily, who are trained to help the blind and human passengers with other disabilities. In 2017, US passenger airlines reported carrying 281,000 qualified service animals.

They also reported three times as many so-called "comfort animals," often referred to as "emotional support animals (ESAs)," up more than 50 percent from fewer than 500,000 the year before. The category has spiked since carriers started charging fees of typically \$125 one way for bringing an animal into the passenger cabin. Fees for shipping animals as cargo can be even higher. So the suspicion is that more than a few flyers are using bogus documents to sneak their dog, cat, ferret or bird on board. The US Department of Transportation (DoT) sought input this summer on possible changes to its Air Carrier Access

Act (ACAA) regulation on transportation of service animals. They received 4,500+ comments from the public, plus a 39-page document from Airlines for America (A4A), the Regional Airline Association (RAA), and the International Air Transport Association (IATA), which proposes, in effect, limiting onboard service animals to trained dogs. "It strikes most people as absurd that, under DOT's current rules, airlines must consider allowing, for example, pigs and birds to travel in cabin on a case-by-case basis," the airlines wrote.

They complained about "an almost uncontrollable surge in passengers trying to travel with 'wild and/or untrainable species' that they claim as emotional support animals," as well as a "surge in the number of incidents involving animals manifesting aggressive behavior (including barking, biting, nipping, growling, and fighting) and uncontrolled urinating and defecating ...)" The airlines alleged "the cheap and easy availability of fraudulent credentials ... via unscrupulous vendors," let people with untrained and unsuitable animals claim they're 'medically necessary' support animals.

"DOT's service animal regulations pertaining to ESAs are 'not working," stated the airline document, "and could have unexpected safety consequences."



The airlines did affirm: "We fully support the right of qualified individuals with a disability who have a legitimate need to travel with a trained service animal in cabin. These include animals that guide ... persons with visual impairments, notify persons who are deaf or hard of hearing of public announcements and/or possible hazards, warn persons with post-traumatic stress disorder or other mental or emotional disabilities at the onset of an emotional crisis, and retrieve items for passengers with mobility impairments."

The FAA Extension, Safety, and Security Act of 2016 requires that the DoT issue a supplemental notice of proposed rulemaking on service animals. However, two years ago, an Advisory Committee on Accessible Air Transportation, representing a cross-section of "significantly affected stakeholder interests," could not reach consensus.

Outside of the US, most airlines permit dogs in the passenger cabin, sometimes excluding "potentially dangerous" breeds or brachycephalic breeds such as French bulldogs because of potential respiratory trouble. Many permit cats. Air Europa seems the most liberal, accepting dogs, cats, some birds, fish, aquarium turtles, hamsters, guinea pigs and small rabbits. Most airlines do not accept pets in the cabin on flights between the US and Europe.

accompanying persons with disabilities should be carried free of charge in the cabin, on the floor at the person's seat, subject to the application of any relevant national or aircraft operator regulations."

#### **DEFINITIONS - DOC 9984**

#### MANUAL ON ACCESS TO AIR TRANSPORT BY PERSONS WITH DISABILITIES

Person with disabilities. Any person whose mobility is reduced due to a physical incapacity (sensory or locomotor), an intellectual deficiency, age, illness or any other cause of disability when using transport and whose situation needs special attention and the adaptation to the person's needs of the services made available to all passengers.

Service animals. Animals, normally being dogs or other animals, specified in national regulations, for the purpose of accompanying persons with disabilities with the objective of providing them with physical or/and emotional support, being under the control of the person with disabilities and provided that their presence on board an aircraft does not endanger the safety of flight operations; is not reasonably considered as a threat to other passengers; and does not cause health concerns related to hygiene.

For more information on the carriage of service animals please refer to section 8.10.



While air traffic is growing faster in other parts of the world than in Europe and America, particularly Asia, the Middle East or Russia, it may be time to thoroughly consider the question of having (or not) a single language for radio communications for larger airports. That is what the European Union did with its Implementing Regulation (EU) 2016/1185 of 20 July 2016. This regulation (SERA C) provides in paragraph 14015 that the English language shall be used for communications between the air traffic service (ATS) unit and the aircraft at aerodromes with more than 50,000 international instrument flight rules (IFR) movements per year. Nevertheless, the regulation text authorizes Member States, in which English is not the only language used for communications between the ATS unit and aircraft at such aerodromes, to decide not to apply the requirement to use the English language. These States were thus required to conduct a study by the end of 2017.

The main scope of the study for France was to investigate if there were proven safety benefits for English only and any precursor elements that would indicate a safety problem in the coexistence of control instructions given in French and in English by the air traffic controller.

The Director General of Civil Aviation (Direction générale de l'aviation civile) entrusted the Service Technique de l'Aviation Civile (STAC) with the study required in paragraph 14015 for France to support this decision, which targets the six aerodromes concerned by SERA Part C regulation in France: Paris-Charles-de-Gaulle (CDG), Paris-Orly (ORY), Nice-Côte d'Azur (NCE), Bâle-Mulhouse (BSL), Lyon-Saint-Exupéry (LYS) and Marseille-Provence (MRS). The study highlights that the assumption behind the drafting of this paragraph is that the sharing of information via the exclusive use of English in radio communications would improve safety through better pilot situation awareness which would help detect abnormal situations, in particular runway incursion risks. The report noted, in contradiction to this assumption, the commonly accepted finding among experts in human factors that pilots' situational

### "... pilots' situational awareness is very far from being based on radio communications alone."

awareness is very far from being based on radio communications alone. Tools available to pilots such as RWSL (runway status lights) or even moving airport maps play a safety net role. Above all, situational awareness within the flight crew of the aircraft has a large scope, in particular the safe operation of the aircraft applying flight procedures, and it is also fed through multiple sensors and data, not only vocal communications. For the air traffic situation, only the air traffic controller, also assisted by a number of tools and safety nets, has a full understanding of the dynamic evolution of the situation.

The study further emphasises that the search for situational awareness through radio communications is an issue that is called into question now that selective pilot-controller dialogue is becoming more widespread, thanks to digital data links. Besides, in the last two decades, the aerodromes concerned by SERA Part C obviously achieved outstanding safety gains by equipping with advanced control assistance tools and implementing runway incursion prevention plans.

Most of the previous expectations on the sole use of the English language include the recommendation to carry out a prior study on the desirability of, and conditions for, implementing before making it mandatory. These recommendations feature in both the European Action Plan for the Prevention of Runway Incursions and a study on communication issues launched in 2006 by Eurocontrol. The latter initiative was triggered because the Eurocontrol agency had noted that ATC communication problems were well documented for the US and that their results would not necessarily apply to the ATC situation in Europe. But it turns out that no specific study or preliminary impact assessment on the

advantages of monolingualism has been found in Europe since then.

The example of Canada shows, on the contrary, that by relying on an effective safety study and real-time simulations, this country moved the province of Québec from a monolingual English language situation for air-ground communications to French-English bilingualism. More than 30 years after this change, no event caused by bilingualism has been reported.

The French study was inspired by the principles of safety management systems (SMS), by approaching various safety partners in the field in order to collect more than 340 events (which include all significant runway incursions on those six airports, controller incident reports, ASRs / aviation safety reports, and French AIB investigations reports) that were analysed as feedback from the viewpoint of the role of radio communication in situation awareness and in the occurrence at large. The study completed the factual safety elements presented in the report with the point of view of the stakeholders. The opinions of the air operators at the aerodromes concerned by SERA Part C were sought. Two French airlines, Air France and Hop!, and one foreign airline, EasyJet, were chosen.

The views of the air navigation services at the aerodromes concerned by SERA Part C were also sought: the heads of Air operations and their respective Safety services were interviewed. In addition, the Paris Aéroport Director in charge of ground operations safety shared his concerns on requiring English for vehicle operations in the concerned aerodromes. In addition, some State authorities in France carry out missions of National Defence, inspection, protection

and rescue and general public services. The pilots involved in these missions often have to contact the ATC in those aerodromes. As they would have had to comply with English only contrarily to their operational routine today, the military directorate in charge of the State Aviation Safety therefore recommended keeping the French language for their radio communications with ATC.

The French AIB, the BEA (Le Bureau d'Enquêtes et d'Analyses), was also questioned about the language issue. The BEA representatives stated that, although their organisation does not carry out risk management analysis, which is the responsibility of those involved in the activity, the BEA is aware that the move to English monolingualism could introduce new risks.

It was in this spirit that a recommendation was formulated in the report on the collision between F-GHED and G-SSWN, on 25 May 2000 at Paris-Charles-de-Gaulle, that the benefits and risks of such a transition should be studied. Unfortunately, this accident has been improperly used as an illustration of negative impacts of bilingualism on situational awareness and safety.

As a result among the studied occurrences, in only two cases, one of the two crew involved in the event became aware of the conflicting situation through the communications: one in a situation when French was used on the frequency by both crew, the other one in a situation when English was the language for both crew. In neither case did the situation appear

serious enough for a safety investigation to be opened. In all other cases, when this situational awareness was possible through radio communications, it was not effective either in a monolingual or a bilingual situation. This outcome in itself questions the effectiveness of the benefits of the so-called party line in a controlled environment.

Per se, paragraph SERA.14015 only refers to operations for air crew. But as the acceptable means of compliance suggest, the study was extended to take account of ground vehicle drivers in the manoeuvring area. The difficulty or even impossibility today for these ground staff to communicate in English was stressed. This lack of English language proficiency of vehicle drivers entails that an English only manoeuvring area would be a factor in reducing their understanding of pilot-controller communications, which they can catch at least in French today, and this would run counter to the claimed benefit of situational awareness.

The solution of using several frequencies, including one between the controller and the pilots and a different one, possibly outside the aeronautic VHF band, between the controller and ground vehicle drivers during certain phases of their work, does not solve the issues of operational safety. It works rather in the opposite direction and the study points out that this has been overlooked.

The interviews with the air operations safety services of the six concerned aerodromes and the events collected have also shown that the co-existence of Francophone VFR

and Anglophone IFR has not been a risk factor in any safety event. The requirement for monolingualism, if it were imposed in the airspace parts managed by ATC units at the aerodromes concerned, would close the access to a large portion of airspace for a large number of VFR flights communicating exclusively in French.

The study has found, in the strict scope of paragraph 14015, the absence of any demonstrated safety gain as a result of the exclusive use of English in radio communications between air traffic control and aircraft for the prevention of runway incursions in France, in particular at each of the six French aerodromes concerned. On the contrary, this implementation would lead to safety issues for ground vehicles and VFR pilots.

Download the study report French aerodromes faced with the requirement to use the English language - Volume 1 in English at: http://www.stac.aviation-civile.gouv.fr/en/guides/frenchaerodromes-faced-requirement-use-english-language-volume-1

#### STÉPHANE LY

Head of Navigation Service at the French Aviation Technical Center (STAC).

A former Deputy Head of Paris Charles de Gaulle airport control and approach center. Also served as a senior Investigator at the French Accident Investigation Bureau (AIB) on major air crash investigations.



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Georgia has been called the "Eden of the Caucasus" with its snow-covered mountains and Black Sea beaches. It is a surprisingly diverse country featuring traditional celebrations and jazz festivals, the ancient Vardzia cave monastery and a thriving modern fashion industry, intriguing architecture, a variety of mouth-watering food and the world's first winemaking dating to 6000 years B.C.

Since the mid-2000s, the ICAO Member State has been expanding its tourist structure substantially and the number of visitors has increased several-fold.

Last year alone, air carrier passenger traffic increased by 43 percent, making Georgia one of the fastest-growing aviation markets globally. More than four million passengers were handled by Georgia's three international airports in 2017, compared to only two million in 2014 and fewer than one million in 2010. The main gateway, Tbilisi Airport, grew by 41 percent in 2017, and Georgia's two other international airports, Batumi and Kutaisi, grew at even faster rates, albeit from a smaller base.

As the State seeks to keep up with the rapid pace of growth, they have also been dramatically improving safety through adherence to ICAO Standards and Recommended Practices (SARPs).

"For the first time in the history of Georgian aviation the country has shown 87.5

percent in terms of compliance with ICAO standards. This is the highest indicator in the region," announced the Minister of Economy, Mr. Dimitry Kumsishvili, at a meeting earlier this year with a delegation from ICAO. Georgia moved from 106th to 30th position in the ICAO rating according to the preliminary data.

Under the ICAO USOAP CSA (Universal Safety Oversight Audit Program -Comprehensive System Approach), Georgia progressed from an Effective Implementation (EI) score of 32.14 percent in 2007 to 55.89 percent in 2013 to 64.76 percent in April 2016, including resolving a Significant Safety Concern (SSC) in the air operator certification process. Preliminary results of an ICAO Coordinated Validation Mission (ICVM) in March 2018 "showed substantial further improvements, reflecting the strong emphasis that Georgia has placed on improving the quality and capacity of its air transportation system," according to evaluators.

During a mission to Georgia in 2017, the President of the ICAO Council, Dr. Olumuyiwa Benard Aliu, expressed the agency's deep appreciation for the proactive actions being taken by the Government of Georgia. "Today the overall situation in Georgia is more stable, with positive trends prevailing," Dr. Aliu commented. "Georgia is poised to achieve even greater progress towards the development of its capacity within the

Popular tourist destination Georgia is growing its air traffic while improving safety and security.

global civil aviation network, and ICAO is ready to provide all support necessary to help it along that path." Dr. Aliu assured the country's leadership that ICAO is deeply committed to its No Country Left Behind initiative, and to providing further assistance to Georgia as its progress continues.

Georgia has also made excellent progress in aviation security (AVSEC). Their most recent audit, in December 2015, under the USAP-CMA program (Universal Security Audit Program – Continuous Monitoring Approach), registered an average implementation of critical elements of 87.80 percent and an average compliance of 88.16 percent of Annex 17 Standards. Georgia is one of the most active States in the ICAO Europe/North Atlantic (EUR/NAT) Region in the field of AVSEC, regularly hosting events, providing support for meetings, and ensuring availability of resources for assistance projects.

Georgia is also chair of the ICAO Project Team on Implementation of Meteorological Services in the Eastern part of the region, and is a strong supporter of ICAO environmental protection actions, including CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation).

# **FIJI SEMINAR SPURS EMISSIONS ACTION AMONG** PACIFIC SMALL ISLAND STATES



At the COP23 in 2017, Fiji took the opportunity to shine a spotlight on the major climate change impacts it faces as a vulnerable Pacific Island State. (COP23 was the 23rd annual Conference of the Parties to the 1992 United Nations Framework Convention on Climate Change.)

According to the first major review compiled at that time -- by Fiji's government and the World Bank -- the Small Island Developing State (SID) will need to spend an amount equivalent to its entire yearly gross domestic product over the next 10 years in order to mitigate expected climate impacts.

ICAO, as part of its partnership with the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF), has now added further momentum to the climate change responses being taken by Fiji and other SIDS through a capacitybuilding seminar it convened there at the end of May on 'Low Emissions Aviation Measures.' The two-day event followed on a seminar organized a month earlier in Kingston, Jamaica, as part of the same ICAO-UNDP-GEF project.

Partnerships and resource-sharing are key aspects of successful climate mitigation for many States, and the Seminar in Fiji provided a great opportunity for more to be fostered. It also enabled participants to better appreciate the role to be played by

the ICAO State Action Plans initiative on CO<sub>2</sub> emissions reduction from international aviation, while improving their access to new guidance documentation on renewable energy, sustainable aviation fuels, financing, and regulatory and organizational measures, all developed as part of the ICAO-UNDP-GEF partnership.

A new tool to help calculate the associated costs and environmental benefits of international aviation mitigation measures was also presented and was recognized by participants as a key resource for related prioritization.

"Environmental protection is critically important to SIDS, as we are at the forefront of confronting the adverse impacts of climate change and share common economic challenges of isolation, limited resources and vulnerability to natural disasters," commented Mr. Sharvada Sharma, Solicitor General and Permanent Secretary for Civil Aviation for the Government of Fiji. "SIDS therefore need significant investment and help from international communities in climate change adaptation, resilience and mitigation measures, in particular, capacity-building and financing."

The Seminar also provided the Pacific SIDS with an opportunity to explore the sustainability benefits of a recently

An Air Pacific flight unloading its cargo at Nadi International Airport, Viti Levu Island, Fiji. The Small Island Developing State (SID) will need to spend an amount equivalent to its annual GDP over the next 10 years to mitigate expected climate impacts. ICAO added important momentum to those efforts through a recent capacity-building seminar on 'Low Emissions Aviation Measures.

inaugurated solar-at-gate project in Kingston, Jamaica, where electricity generated from photovoltaic panels is now being employed to eliminate the former fossil fuel sources used to power parked aircraft. Discussions regarding its replication with all Pacific SIDs are now ongoing with various regional and international organizations.

Ms. Jane Hupe, Deputy Director for Environment at ICAO, noted that the event "has raised important awareness on the various funding mechanisms now available for SIDS with respect to aviation emissions mitigation measures, and has also been an excellent opportunity to share experiences and lessons learned and to develop further collaborative approaches aimed at reducing international aviation emissions. I'm greatly encouraged as well that the recent solar-at-gate project we worked on in Jamaica could now bring new sustainability benefits to SIDS here in the Pacific, as well as in the Caribbean."





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