# AVSEC ACTION

## STAYING AHEAD OF CYBERSECURITY, TRAVEL DOCUMENT, TRAFFICKING AND AIRPORT SECURITY CHALLENGES

**ALSO IN THIS ISSUE:**
SPECIAL SITUATIONS COUNTRIES SDG FOCUS
AFRICA: AFI WEEK, AIR CARGO, SUSTAINABLE GROWTH
BIRD STRIKE & WILDLIFE HAZARD REDUCTION
ACCIDENT SURVIVAL 101

ICAO

UNITING AVIATION

# Contents

Dr. Olumuyiwa Benard Aliu

# AN IMPORTANT YEAR FOR AVSEC PROGRESS

✈ This issue of the *ICAO Journal* provides a helpful recap of our recently-concluded ICAO Global Aviation Security Symposium (AVSEC2017), which we hosted this year in collaboration with Airports Council international (ACI). It was one of several very important aviation security events which have helped us make great progress in 2017 on several fronts.

Suitably, AVSEC2017 focused on two key developments which are guiding ICAO's prioritization and assistance in the AVSEC domain today; namely United Nations (UN) Security Council Resolution 2309 (2016), and the new ICAO Global Aviation Security Plan (GASeP) which is now being finalized.

Both the Resolution and the new GASeP support objectives aimed at reducing the likelihood of an act of unlawful interference against international civil aviation. But it is also important to remind ourselves that States have important responsibilities in this context, and that each country and each screening checkpoint represents a potential vulnerability in aviation's global network.

From a more general standpoint, however, and regardless of our success in the coming months and years with the new GASeP to guide us, we must continue to remain aware that aviation attacks will inevitably have an exaggerated impact on the public's consciousness, and that because of that air transport activities and facilities will continue to be prioritized as terror targets.

Technological advances will be a great benefit to our efforts, but they also make it simpler for a much wider variety of terrorists and others with ill-intent to do our network harm. This is the type of double-edged sword that confronts us where cyber capabilities and risks are concerned.

# "It was one of several very important aviation security events which have helped us make great progress in 2017 on several fronts."

## RESOLUTION 2309: RE-EMPHASIZING AVIATION'S GLOBAL ROLE

Resolution 2309 was unanimously adopted by the UN Security Council last September. It places a key focus on terrorists' continued penchant to target the air transport sector as was exemplified once again last year in the high-profile landside airport attacks which took place in Istanbul and Brussels.

In the context of this continuing threat, Resolution 2309 also underscores how interconnected our network is – and how this interconnectivity poses particular operational challenges amid security risks.

This points to the need for increased international cooperation, but it also stresses how critical information sharing is to our future aviation security objectives, and especially Advance Passenger Information.

Another key priority of Resolution 2309 is for ICAO's Member States to strengthen their implementation of security-related Standards and Recommended Practices (SARPs), including with respect to more effective coordination among their local security departments and agencies. This elicits a wide range of concerns relating to a State's overall security culture, its landside security preparedness, information sharing restrictions which may be impeding aviation objectives, and border control management.

## THE GASeP: ICAO'S AVSEC IMPLEMENTATION SOLUTION

ICAO's new GASeP fully aligns with the objectives of Resolution 2309. It was developed with the assistance of a specialized Task Force which included Member State and industry experts, and with its preliminary reviews now complete it will be presented for approval by the Council during its November 2017 Session.

The GASeP comprises five priority outcomes, including enhanced risk awareness and response; the co-development of effective security cultures and the human capabilities needed to support them; improved technological resources and greater innovation; improved oversight and quality assurance; and lastly increased cooperation and support.

It also includes an Implementation Roadmap which identifies the key tasks and the responsible parties necessary to achieve progress, and a general target aimed at encouraging States to improve upon their overall effective implementation of security provisions.

Capacity-building is an essential component of any global objective ICAO undertakes, and the GASeP is no exception. To meet the GASeP targets, States must strengthen their counter-terrorism mechanisms and address local vulnerabilities relating to the equipment and technologies they are presently employing, as well as enhance training and capacity building.

The GASeP also provides for technical assistance to Member States based on the result of an ICAO security audit or their own risk assessments. ICAO's role will be to analyze Member States needs and requests and to recommend the partnerships and approaches to best resolve the identified gaps or weaknesses.

In addition to the UN Resolution 2309 and the Global Aviation Sector Plan this Journal issue also places helpful focus on the Dubai Declaration on Cybersecurity in Civil Aviation which emerged from the special Summit ICAO convened there earlier this year. This issue also includes a focus on the new *Africa and Middle East Aviation Security Roadmap* which was endorsed this past August by a Ministerial Conference on Aviation Security, hosted by Egypt.

However it is important to emphasize that neither the GASeP nor Resolution 2309 or the other high-level declarations can bring about the strengthened AVSEC framework we are seeking to establish without necessary commitment and innovation and the support and partnership of all air transport stakeholders.

Thus, as we face current and emerging challenges ICAO greatly appreciates the commitments and partnership of our State and industry partners as we work together to keep our passengers and network safer and more secure in the years ahead. ■

**Dr. Olumuyiwa Benard Aliu**
**President of the ICAO Council**

# ICAO Council Information accurate at time of printing

**President:** Dr Olumuyiwa Benard Aliu

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**Second Vice-President:** Mr Ismael Pacheco Serrano  **Secretary:** Mr Stephen Creamer

Members of the Air Navigation Commission are nominated by Contracting States and appointed by the Council. They act in their personal expert capacity and not as representatives of their nominations.

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| Mr R.H. Godinho | Mrs. E. Koryfidou | Mr I.P. Serrano | Mr C.D.C. Jang |
| Mr M. Halidou | Mr J. Metwalli | Mr F. Tai | |

# ICAO's Global Presence
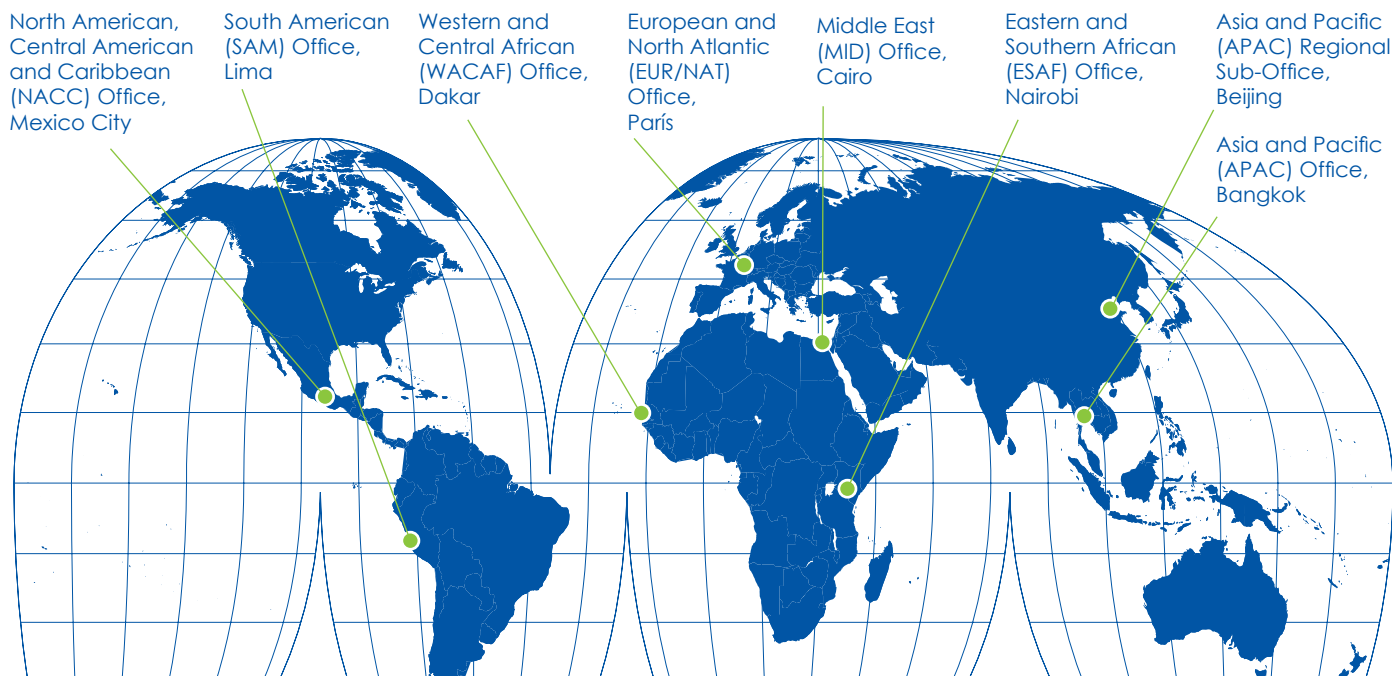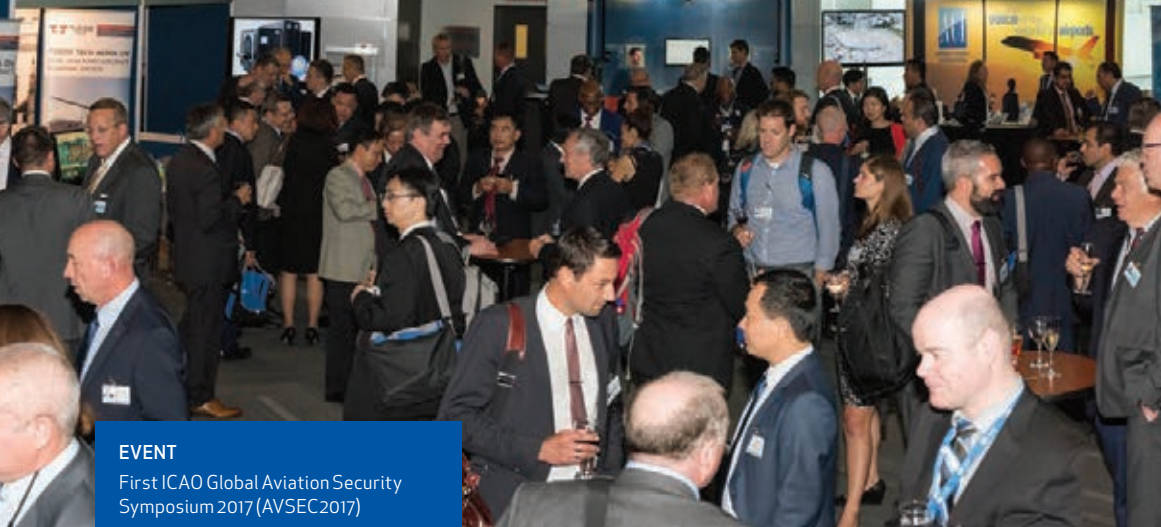
North American, Central American and Caribbean (NACC) Office, Mexico City

South American (SAM) Office, Lima

Western and Central African (WACAF) Office, Dakar

European and North Atlantic (EUR/NAT) Office, París

Middle East (MID) Office, Cairo

Eastern and Southern African (ESAF) Office, Nairobi

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

Asia and Pacific (APAC) Office, Bangkok

# 1ST ICAO AVSEC SYMPOSIUM PROMOTES *GASeP* PRIORITIES

✈ "Aviation security remains a very dynamic context of emerging threat and risk, and we still have important challenges ahead of us," ICAO Secretary General Dr Fang Liu told several hundred international aviation stakeholders at the opening session of the inaugural AVSEC Symposium held at the Organization's headquarters. "One of these is a lack of political will to set out the changes in policy and approaches now required. Some States, for instance, still think that threats are other States' problems and will not occur locally. Others worry that the costs of security are not commensurate with the benefits. Still, others are influenced by the perceived inconvenience on travellers."

"A similar challenge which persists," Dr Liu added, "is a lack of willingness to share key information. Some actionable details regarding recent security events remain unavailable to ICAO and other Member States after they take place, and we must find a way to identify and judiciously share essential threat information in order to set out appropriate and timely mitigation measures."

The SG highlighted United Nations Security Council Resolution 2309, adopted a year ago, which spotlights terrorists' continued attraction to aviation targets and the need to strengthen implementation of ICAO security-related Standards and Recommended Practices (SARPs), including better coordination among States' related domestic departments and agencies.

She also emphasized ICAO's proposed new *Global Aviation Security Plan*, or *GASeP*, which will serve as a key mechanism through which Resolution 2309 will be implemented. The *GASeP* was developed via a specialized Task Force which included Member State and industry experts, many of whom spoke at the Symposium. Dr Liu said formal review of the GASeP is complete, and it will be presented for approval by the ICAO Council in November.

"The *GASeP* comprises five priority outcomes," she explained:

1. Enhanced risk awareness and response
2. Co-development of effective security cultures and the human capabilities needed to support them
3. Improved technological resources and greater innovation
4. Improved oversight and quality assurance
5. Increased cooperation and support

The Symposium programme tracked to *GASeP* priorities and covered an extensive range of topics: A common understanding of AvSec culture, threats and vulnerabilities (including the "unknown"), risk assessment models, cybersecurity, remotely piloted aircraft systems (RPAS), improvised explosive devices (IEDs), personal electronic devices (PEDs), quality control and oversight systems at the operational and national levels, technologies such as facial recognition and x-ray screening, behaviour detection, and case studies of security checkpoint innovation at airports. There was also a live demonstration of explosives detection by canines.

The tone for the Symposium was established by a series of pre-event workshops, including cybersecurity and airport landside security tabletop exercises, introductions to ICAO Risk Management as well as the Universal Security Audit Programme Continuous Monitoring Approach (USAP-CMA), and discussion of industry standards for CT X-ray image quality and 3D image interpretation.

It was the first international forum for Mr David Pekoske, the new Administrator of the US Transportation Security Administration (TSA) as of August. Mr Pekoske warned, "The threat to civil aviation, including cargo, is persistent. It is dynamic. And it is complex." He commented, "We are only as strong as our weakest link, and it is up to us collectively to determine the strength of the global aviation network. By addressing vulnerabilities before they are exploited, we can reduce the need for unilateral requirements for additional security measures."

Mr Henrik Hololei, Director-General, Mobility and Transport, European Commission, said security solutions should be risk-based, outcome-based, and facilitation-based. "Risk-based means the need to develop security measures proportionate to the threat that focus on the probable, not on the possible. Outcome-based means that security measures actually achieve objectives, rather than just prescribing rigid procedures to comply with. Facilitation-based means that security measures should not disproportionately disrupt the day-to-day lives of passengers and business, as far as possible."

ICAO Air Transport Bureau (ATB) Director, Mr Boubacar Djibo, urged, "We must ensure all members of the aviation community are personally committed to preventing acts of unlawful interference. Through training, leadership, and continuous attention, we can draw upon the eyes and ears of everyone to bolster our awareness of gaps in security and enable us to close those gaps before they are exploited. We cannot continue to pile layer upon layer of measures at each security juncture – we must find the correct balance of effectiveness and facilitation so the threat is prevented without impeding the flow of people and goods."

The Symposium also featured a unique "Meeting Service Platform," which enabled bi-lateral and multi-lateral meetings to be set up between States, aviation security and airport authorities, manufacturers, academics, law enforcement agencies and airlines to discuss projects and collaboration opportunities, business proposals, to showcase new products, or just to meet a new AVSEC counterpart.

The 2nd AVSec Symposium is scheduled for 29 October – 2 November, 2018, in Montréal. ∎

"We must not address tomorrow's threats with yesterday's security approach."

– Mr David Pekoske, Administrator, Transportation Security Administration (TSA), United States



"Aviation safety and aviation security are two sides of the same coin."

– Mr Henrik Hololei, Director-General, Mobility and Transport, European Commission



"A challenge which persists is the lack of willingness to share key information."

-Dr Fang Liu, Secretary General, ICAO

# ICAO CYBERSECURITY SUMMIT ISSUES DUBAI DECLARATION

**EVENT**
ICAO Cyber Summit and Exhibition - Making Sense of Cyber, 4-6 April 2017, Dubai, United Arab Emirates

**ORGANIZERS**
ICAO

**HOST**
UAE General Civil Aviation Authorities (GCAA)

**PARTICIPANTS**
More than 500 experts from over 90 States, industry, partners and other key stakeholders

**KEY OUTCOMES**
- Issued the Declaration on Cybersecurity in Civil Aviation, aka the "Dubai Declaration" (see page 9)
- Highlighted key areas of current and emerging aviation cyber threats and risks, response and enforcement, management systems as well as cyber information sharing to build a cyber-resilient total aviation ecosystem.



Mr Saif Al Suwaidi, Director-General of the UAE GCAA (right) congratulates ICAO Council President, Dr Olumuyiwa Benard Aliu, on the Dubai Declaration on aviation, cybersecurity.

"The basic interconnectedness we have all grown accustomed to in our day-to-day digital lives is now also a basic characteristic of on-board and ground-based aviation systems. This makes them potentially vulnerable to outside cyberattack, and explains why the logical or physical segregation of safety critical systems is a crucial first step for global aviation," President of the ICAO Council, Dr Olumuyiwa Benard Aliu, told a gathering of experts at the inaugural ICAO Cyber Summit and Exhibition.

"Threats are emerging at an ever-increasing rate. Almost daily, new and more sophisticated digital technologies and processes are coming online, and impacting as they do the function of our network, its relationships with customers and stakeholders, and even the way that air transport professionals connect and cooperate with one another. Our traditional first responders in aviation, pilots and air traffic controllers, must have the training and capabilities they need to recognize and respond to cyberattacks and effectively intervene in case of system failures," Dr Aliu added.

Sultan bin Saeed Al Mansouri, Minister of Economy and Chairman of the UAE GCAA, said, "The aviation transportation network is reliable, safe, and efficient and carries billions of passengers and millions of tonnes of freight annually. To ensure sustainability is maintained in this vital sector, it is important for the global community to be proactive, cross-pollinate ideas, share views, participate in the event and support the principles contained in the declaration. The ICAO Cyber Summit and Exhibition is a testimony that the aviation industry is at the forefront when it comes to managing emerging risks and that it maintains its commitment to ensuring a safe and secure transportation system worldwide."

Mr Saif Al Suwaidi, Director-General of the UAE GCAA, added, "Sharing knowledge and gaining full understanding of potential risks in order to close vulnerable gaps is of utmost importance. Maintaining the safety and security of the aviation industry is critical to allow growth and development of the industry. Any breach in the cyber management system puts the entire industry at risk. Ensuring

cooperation between government entities, the international aviation industry partners and the multitude of stakeholders who are fundamental in combating cyberthreats is crucial."

## RESOLUTION A39-19 FOUNDATION

At ICAO's 39th Assembly in October 2016, world governments signaled their awareness and concern on cyber risks and threats through Resolution A39-19.

The Assembly Resolution, *Addressing Cybersecurity in Civil Aviation*, calls upon States and industry stakeholders to:

a) **Identify the threats and risks** from possible cyber incidents on civil aviation operations and critical systems, and the serious consequences that can arise from such incidents;

b) **Define the responsibilities** of national agencies and industry stakeholders with regard to cybersecurity in civil aviation;

c) Encourage the development of a **common understanding** among Member States of cyber threats and risks, and of common criteria to determine the criticality of the assets and systems that need to be protected;

d) Encourage **government / industry coordination** with regard to aviation cybersecurity strategies, policies, and plans, as well as **sharing of information** to help identify critical vulnerabilities that need to be addressed;

e) Develop and participate in **government / industry partnerships** and mechanisms, nationally and internationally, for the systematic sharing of information on cyber threats, incidents, trends and mitigation efforts;

f) Based on a common understanding of cyber threats and risks, adopt a **flexible, risk-based approach** to protecting critical aviation systems through the implementation of cybersecurity management systems;

g) Encourage a **robust all-round cybersecurity culture** within national agencies and across the aviation sector;

h) **Determine legal consequences** for activities that compromise aviation safety by exploiting cyber vulnerabilities;

i) Promote the development and implementation of international **standards, strategies and best practices** on the protection of

critical information and communications technology systems used for civil aviation purposes from interference that may jeopardize the safety of civil aviation;

j) **Establish policies and allocate resources** when needed to ensure that, for critical aviation systems, system architectures are secure by design; systems are resilient; methods for data transfer are secured, ensuring integrity and confidentiality of data; system monitoring, and incident detection and reporting, methods are implemented; and forensic analysis of cyber incidents is carried out; and

k) Collaborate in the development of **ICAO's cybersecurity framework** according to a horizontal, cross-cutting and functional approach involving air navigation, communication, surveillance, aircraft operations and airworthiness and other relevant disciplines.

The conclusions which emerged from the Summit and Dubai Declaration will help to establish near-term prioritization of systems and procedures, cyber-resilience steps and security overlays, the more intensive collaboration needed and clarity on roles and responsibilities. Much of this strategic planning and guidance will be contained in ICAO's new *Global Aviation Security Plan (GASeP)*, expected to be launched by the end of 2017.

## ANALYZING THREATS AND RISKS

Ms Rachel Daeschler, Head of Safety Intelligence and Performance for the European Aviation Safety Agency (EASA), noted a recently announced plan for a Europe-wide initiative for the entire aviation chain, from air traffic management systems to maintenance organizations and airports. This EASA plan includes set up of a European Centre for Cybersecurity in Aviation (ECCSA). The ECCSA will rely on the information technology capabilities of the Computer Emergency Response Team of the EU Institutions (CERT-EU) to promote and activate the circulation of information among relevant aviation stakeholders. Ms Daeschler explained that during the pilot phase, core members and partners are defining governance and sharing rules.

ECCSA will primarily serve as an information sharing and management platform, an enabler for secure means for aviation stakeholders to exchange domain-relevant cybersecurity information such as vulnerabilities, events, and incidents. The ECCSA operational team of analysts will provide additional inputs to the information shared to facilitate creation and management of an aviation cybersecurity threats knowledge and risk picture.

"The logical or physical segregation of safety critical systems is a crucial first step for global aviation"

– Dr Olumuyiwa Benard Aliu,
ICAO Council President

# THE DUBAI DECLARATION ON CYBERSECURITY IN CIVIL AVIATION

We, the Officials and representatives from the States and regional and international organizations participating in the summit on cybersecurity in civil aviation, convened by the International Civil Aviation Organization (ICAO) in Dubai, United Arab Emirates, from 4 to 6 April 2017, to address challenges to aviation resulting from cyber threats;

Recalling the Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation, and the Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft done in Beijing on 10 September 2010 (Beijing Instruments);

Recalling further the ICAO Assembly Resolution A39-19: Addressing Cybersecurity in Civil Aviation, and the importance and urgency of protecting civil aviation's critical infrastructure systems and data against cyber-threats by, inter alia:
   a) implementing global, regional and State-level strategies on cybersecurity in civil aviation based on a shared vision;
   b) increasing the resilience of the global aviation system against cyber-threats that may jeopardize the safety, security and efficiency of civil aviation; and
   c) reaffirming the prominent role of ICAO as aviation's highest-level forum for addressing collaboratively cybersecurity in civil aviation;

Mindful of the challenges in safeguarding civil aviation against cyber-threats in a demanding and continuously evolving aviation cybersecurity environment;

Noting that in many cyber incidents affecting the safety and security of civil aviation, their actors are focused on malicious intent, disruption of business continuity and theft of information for political, financial or other motivations;

Recognizing that cyber incidents can affect critical civil aviation systems worldwide with catastrophic consequences, including the availability of information and communications technology systems, and the integrity and confidentiality of data, all of which the aviation sector is increasingly reliant on; and

Considering the need to facilitate and encourage initiatives worldwide aimed at addressing cybersecurity in a collaborative, comprehensive and cross-cutting manner;

Declare that:
1. It is the responsibility of States to act in such a way as to mitigate the risk posed by cyber threats, to build their capability and capacity to address such threats in civil aviation, and to ensure their legislative framework is appropriately established to take action against actors of cyber-attacks;
2. Cyber capabilities applied to aviation should be used exclusively for peaceful purposes and only for the benefit of improving safety, efficiency and security;
3. Collaboration and exchange between States and other stakeholders is the *sine qua non* for the development of an effective and coordinated global framework to address the challenges of cybersecurity in civil aviation;
4. Cybersecurity matters must be fully considered and coordinated across all relevant disciplines within State aviation authorities;
5. Cyber-attacks against civil aviation must be considered an offense against the principles and arrangement for the safe and orderly development of international civil aviation; and
6. The ratification and entry into force of the Beijing Instruments would ensure that a cyber-attack on international civil aviation is considered an offence, would serve as an important deterrent against activities that compromise aviation safety by exploiting cyber vulnerabilities, and therefore it is imperative that all States and ICAO work to ensure the early entry into force and universal adoption of the Beijing Instruments, as called for in ICAO Assembly Resolution A39-10: Promotion of the Beijing Convention and Beijing Protocol of 2010; and

Reiterate our commitment to the development of a robust, efficient and sustainable civil aviation system.

Done in Dubai, United Arab Emirates, on this 5th day of April 2017.

> "Ensuring cooperation between government entities, the international aviation industry partners and the multitude of stakeholders who are fundamental in combating cyberthreats is crucial."
>
> – Mr Saif Al Suwaidi,
> Director-General of the GCAA

Mr Luc Tytgat, EASA Strategy and Safety Management Director, who attended the Dubai Summit event, said, "We need to be prepared for the threat of cyberattacks in aviation; it is not a matter of if it will happen but when it will happen. The growing risks come from the use of new technologies and new devices: for example, pilots are increasingly using devices connected to the cockpit, such as flight maps, and we have no way to guarantee these cannot be hacked. We have this culture of sharing information in the aviation safety domain. On security matters, it is more difficult. We are discussing with associations in the aviation sector to implement the sharing of information to make sure that other partners will not be faced with similar attacks."

Mr Phil Williams, the UK Department for Transport representative on the ICAO Threat and Risk Working Group, outlined the current annual Risk Context Statement (RCS) produced by the group. He cautioned that, "Risk assessments never stay still," and described as current concerns: Skilled insider threats, greater reliance on information systems, increasing inter-connectivity within the aviation sector, increasing uses of external data sources such as the internet, commercial off-the-shelf (COTS) equipment, and remote software updates, as well as the greater connectivity of e-enabled aircraft. Established in 2009, the Threat and Risk Working Group is open to all Member States to contribute.

Cyber mitigation measures vary among States, air navigation service providers (ANSPs), aircraft operators and airports, highlighting the need for improved sector-wide collaboration. "Some may suggest this points to a role for near-term ICAO provisions to be established," Dr Aliu said. "However, we are still at too nascent a stage to determine appropriate and practical standards in the Annexes to the Convention on International Civil Aviation." He advised that civil aviation should continue to reinforce the inherent mitigation capabilities of pilots and air traffic controllers, noting that the sector's increasing connectivity to external networks and the use of public communication infrastructure for transmitting data represent further risks that have to be carefully managed.

Mr Pascal Andrei, Chief Security Officer, Airbus Group, and Mr Jim Vasatka, Director, Aviation Security, Boeing Commercial Airplanes, collaborated on an industry perspective presentation which outlined the challenges of cybersecurity vulnerabilities: "Aviation operates in silos. Success depends on many stakeholders.

The pace of change is slow and deliberative. A broad spectrum of technology is deployed. And there is an unwillingness to share data necessary for system-wide risk management."

As drivers influencing success, they offered:

- Aviation cyber standards
- Security culture
- Understand the threats and vulnerabilities
- Understand the risk end-to-end
- Communicate the threats/vulnerabilities and assure situational awareness
- Incident response
- Strengthen the defensive system
- Design principles
- Operational principles
- National R&D Plan
- Work together on strategy, policy and plans
- Ensure common (or compatible) management of security within and across civil aviation (all regions and countries).

Currently, the Airbus and Boeing security leaders commented, "Not all civil aviation players share a common set of objectives, methods, and criteria for evaluation. The perception of risk depends upon region, culture, values, practices, objectives, interests, oversight, duties, and roles."

Mr Bob Graham, Head of Airport Research for Eurocontrol, said Airport Collaborative Decision Making (A-CDM) and Airport Operations Centre (APOCs) "are critically important, but may be built on insecure legacy infrastructure. Extended supply chains may increase security risks, and a compromised APOC could 'pollute' an air transport management network. Trust will need to come from a range of sources; information sharing and common cyber-situational awareness will be needed too."

Mr Gilles Lorindon, CEO of the Global Security Network, cautioned that, in the focus on terrorists and hackers, the insider threat is overlooked (insiders can include interns, vendors and consultants). "Is it enough to be able to tick a box, thanks to a yearly security awareness session, or should we actually try to have a systematic approach?" he asked. He said, "Technology is not the answer," recommending a Human Reliability Programme (HRP), focused on detecting staffers who need help. It will require "major cultural challenges to implement a positive security culture." ■

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# NEW CONSENSUS ON AFRICA AND MIDDLE EAST AVSEC



ICAO Council President Dr Olumuyiwa Benard Aliu stressed that ICAO's new *Global Aviation Security Plan (GASeP)* sets out key priorities where ICAO, States, and others should focus their urgent attention, resources and actions at the global, national and local levels.

**A new Africa and Middle East Aviation Security Roadmap to align future programmes and targets with ICAO's new *Global Aviation Security Plan (GASeP)* was endorsed in August by a high-level Ministerial Conference on Aviation Security held in Sharm El Sheikh, Egypt.**

The main objective of the AFI and MID AVSEC Roadmap is to encourage and help guide Africa and Middle East collaboration. ICAO Council President Dr Olumuyiwa Benard Aliu praised the commitment as a critical first step which should be emulated worldwide as ICAO coordinates efforts for global aviation security effectiveness and sustainability.

"The *GASeP* provides an ambitious framework for the enhancement of international aviation security over the coming years," Dr Aliu stated. "It also incorporates key themes from United Nations (UN) Security Council Resolution 2309 on *Threats to international peace and security caused by terrorist acts via aviation security*, adopted in September 2016."

"The Plan's core objective is to enhance the effectiveness of global aviation security generally, and to improve the practical and sustainable implementation of preventative aviation security measures. To help accomplish this, it sets forth five key priorities where ICAO, States, and other stakeholders should focus their urgent attention, resources and efforts, as well as corresponding actions at the global, national and local levels," he explained.

These key priorities of *GASeP* are:
1. Enhancing risk awareness and response.
2. Establishing a better-defined security culture.
3. Improving technological resources and fostering innovation.
4. Improving oversight and quality assurance.
5. Increasing cooperation and support.

In his address to the 27 attending Ministers and 35 Directors General of Civil Aviation, representing some 45 African and Middle Eastern Member States, Dr Aliu stressed, "The contributions of ICAO's States and Regions will be just as critical to the *GASeP's* implementation as they have been thus far to its development. Our *No Country Left Behind* initiative, which emphasizes the importance of efforts to ensure effective implementation of ICAO provisions globally, has been embedded into virtually every major aspect of this document."

The Regional Roadmap adopted in Egypt will facilitate the *GASeP's* implementation in the ICAO MID and AFI Regions. As the first of such regional roadmaps, Dr Aliu noted, "It will serve as inspiration to other ICAO regions and will greatly assist us in fostering the effective implementation of the *GASeP* in a globally harmonized manner."

His Excellency Sherif Fathi, the Minister of Civil Aviation for Arab Republic of Egypt, opened the Ministerial conference under the Patronage of President Abdel Fattah Al Sisi, remarking, "This Roadmap complements the important milestone we achieved in the region earlier this year through the Riyadh declaration. It also strongly supports the current AFI and MID SECFAL Plans and will be essential to improved regional cooperation and coordination to enhance aviation security in both Regions." ∎

"The *GASeP* provides
an ambitious framework
for the enhancement
of international
aviation security."

– ICAO Council President
Dr Olumuyiwa Benard Aliu

# SECRETARY GENERAL LIU HIGHLIGHTS ICAO AVSEC INITIATIVES AT UN SECURITY COUNCIL

## NEW GLOBAL AVIATION SECURITY PLAN, RISK CONTEXT STATEMENT, AND ADVANCED PASSENGER INFORMATION STANDARD ARE KEY ELEMENTS IN ICAO TOOLKIT

**To achieve the objectives of United Nations Security Council (UNSC) Resolution 2309 on T***hreats to international peace and security caused by terrorist acts: Aviation security,* **unanimously adopted in September 2016, ICAO Secretary General Dr Fang Liu stated: "It is my firm belief that it is important that the highest levels of States' governments take action. Resources must be made available, cooperation must be increased, initiatives must be endorsed, and timelines must be met."**

In recent months, Dr Liu carried that message to two key recent missions – in July at a Special Meeting of the Counter-Terrorism Committee (CTC) of the UNSC, and in September to the United Nations Security Council itself.

"Foreign terrorist fighter movements, landside attacks, threats posed by insiders and airport staff, and the use of increasingly sophisticated improvised explosive devices are all significant concerns, and our expanding reliance on information technology in all areas of aviation – from navigation to communications to security – exposes us to cyber threats," Dr Liu noted in her remarks to the CTC. "We must ensure that those who can counter these threats are well prepared to take the appropriate action to deter, detect, and prevent such attacks."

UNSC Resolution 2309 calls upon States to implement effective, risk-based measures that mitigate the ever-evolving threat picture. Dr Liu stressed that meeting the objectives of the Resolution requires that States' Aviation Security authorities have sufficient access to current threat information. Additional challenges persist regarding the sharing of threat and risk information internally in many countries. "We must find a way to identify and judiciously share essential elements of information necessary to implement appropriate measures at the proper level," she said.

Dr Liu stressed the importance of new and existing ICAO tools to help address these concerns. "*The Global Aviation Security Plan* (GASeP) and *Global Risk Context Statement,* in addition to various supporting ICAO working groups, task forces and security programmes and projects, are all essential elements in addressing the security challenges," she highlighted.

ICAO's new GASeP, Dr Liu told the UNSC, "focuses extensively on the threat of terrorism to civil aviation, and has benefitted from extensive inputs on behalf of governments and industry. Its objectives align with those of UN Security Council Resolution 2309, and once finalized it will be the primary tool by which the aviation security community fulfils its diverse roles."

The GASeP core objectives are to enhance risk awareness and response, establish a better-defined security culture, refine related technologies while fostering innovations, and improve oversight and quality assurance while increasing cooperation among member States, global and local organizations. As this issue went to press, the GASeP was expected to be approved by the ICAO Council in November. In the coming months, a key priority will be to ramp up related global commitments and outreach.

"All States are encouraged to strengthen their support to ICAO's work on aviation security, ensure the implementation of the GASeP as a matter of high priority, and cooperate on global, regional, and national levels to raise the level of effective implementation of global aviation security," Dr Liu said. "It will only be by virtue of sustained political will, especially at the highest levels of government and industry, that the GASeP will succeed."

Dr Liu added that obtaining financial support is another major area where UN entities can assist ICAO. "To meet the security targets identified in the GASeP and its associated regional roadmaps,

Secretary General of the United Nations, Mr António Guterres (right) with Dr Fang Liu, ICAO Secretary General.



The GASeP "will be the primary tool by which the aviation security community fulfils its diverse roles."

- Dr Fang Liu, Secretary General, ICAO

capacity development and technology assistance programmes must expand significantly."

Dr Liu also provided updates to the Security Council on ICAO's work on the *Global Risk Context Statement*, as well as on related aviation security capacity-building projects in line with its *No Country Left Behind* initiative. In addition, she noted, "this year's adoption of an Advance Passenger Information (API) Standard (which became effective 23 October 2017) will now make it harder for Foreign Terrorist Fighters to move between States."

Other priorities discussed during the UN Security Council Session included persistent challenges with respect to sharing key information on recent incidents, landside gaps at airport facilities, improvised explosive devices (IEDs) in Portable Electronic Devices, cybersecurity and Man-Portable Air Defence Systems (MANPADS).

"Each of these threats potentially generates a new layer of technology requirements, which becomes costly not only in terms of equipment purchase but also in building renovations, training and maintenance requirements. It slows down the security procedures and affects other operations and facilitation," Dr Liu remarked.

She highlighted the need to keep an appropriate balance between the necessary levels of aviation security and the passenger experience and facilitation objectives.

The ICAO briefing was received positively by the Security Council members who commended the work of ICAO, congratulated ICAO for having sped up the development of the GASeP and reaffirmed their political support.

Ambassador Philippe Bertoux, Representative of France on the ICAO Council, Chair of the Committee on Unlawful Interference, and Mr Saud A.R. Hashem, Representative of Saudi Arabia on the Council, Chair of the Air Transport Committee, were also in attendance at the UNSC. The ICAO Secretary General also held meetings with the Secretary General of the United Nations, Mr António Guterres, and the newly appointed Under Secretary

General of the UN in charge of the Office for Counter Terrorism, Mr Vladimir Ivanovitch Voronkov, and delegations of States members of the Security Council.

On the margins of the CTC Special Meeting, Dr Liu met the Ambassador of Egypt, Chairman of CTC, and the United Nations Security Council's five Permanent Members missions of China, France, Russian Federation, United Kingdom and United States, as well as the Deputy Minister of Transport of the Russian Federation. During these meetings, Dr Liu thanked their States for all their support in reinforcing ICAO's leadership in aviation security.

The Representatives of France and of the United Kingdom on the Council of ICAO and senior officials from civil aviation security authorities of Canada, Israel, Russian Federation, Singapore, South Africa, United Kingdom, United States, representatives from international and regional organizations as well as industry also contributed to the success of the CTC special event. ■



Mr Saud A.R. Hashem (left), Representative of Saudi Arabia on the Council, Chair of the Air Transport Committee, and Ambassador Philippe Bertoux (right), Representative of France on the ICAO Council, Chair of the Committee on Unlawful Interference, were also in attendance at the UN Security Council presentation.

# NO COUNTRY

# LEFT BEHIND

Ensuring the benefits
of global air transport connectivity
for ALL States and Regions

# THE TRAVELLER ID COMPONENT OF AVIATION SECURITY

**DR NARJESS ABDENNEBI**
*Chief, Facilitation Section, ICAO*

**There is strong consumer and business pressure for expedited travel, trade and tourism, and corresponding public resistance to security, border control and other processing activities that add avoidable costs, delays, and restrictions to movement. Conversely, security threats in many sectors – including the aviation sector – are real, significant and continually evolving.**

**Innovative technologies and protocols offer new opportunities for cost-effective deployment of security resources where they are most needed, based on risk-management principles, thereby enhancing both security and facilitation objectives.**

Following on the successful introduction of machine-readable travel documents (MRTDs) in the 1980s, which dramatically enhanced the security features used in passports, ICAO is now implementing an ambitious initiative aimed at improving both the overall integrity of travel documents and the processes involved in their issuance as well as security at border control.

The ability of terrorists and criminals to operate with anonymity – beyond the knowledge or even suspicion on the part of relevant State and international authorities about their true identity and movements – is a powerful tool and weapon in enabling those with ill intents to further their unlawful and illegitimate activities. Conversely, the ability of authorities to confirm the true identity and to monitor certain movements of travelers – and to do so speedily, cost-effectively, securely and responsibly – is vital for a wide range of purposes:

- Maintenance of effective national and global security
- Facilitation of personal and business travel and trade
- Determination and discharge of treaty and other obligations and rights related to the cross-border movement and admission of people
- Cost-effective deployment of security and border admission and clearance personnel and resources on a risk-management basis
- Detection and prevention of crime, including money laundering, smuggling, illegal drug trade, child abduction and human trafficking

## DRIVERS FOR ENHANCED TRAVELLER IDENTIFICATION

The ICAO Traveller Identification Programme (ICAO TRIP) Strategy aims to enhance the integrity of the passport-issuance process and to ensure robust identification-management processes in order to prevent exploitation by terrorists and maximize the effectiveness of border security and the benefits of enhanced facilitation of travel across borders.

The efforts of ICAO to ensure the legitimacy of secure travel documents depends on a holistic, and integrated approach to the traveller identification-management and issuance process. The integrity of travel-document issuance is severely compromised if appropriate safeguards are not incorporated to ensure confirmation of the identity of the individual to whom the passport is issued.

A comprehensive and cohesive approach to traveller identification entails five closely linked and mutually complementary identification management activities:

1. **Evidence of Identity:** ensure authenticity of the identity of an applicant seeking issuance of a travel document, confirming for that individual a unique identity linked to the applicant, the identified individual's status as still living and the applicant's status as an active user of that unique identity.

2. **Machine-Readable Travel Documents (MRTDs):** ensure that the design and manufacture of standardized machine-readable passports (MRPs), visas, and identification (ID) cards for travel meet internationally accepted standards and practices with respect to global interoperability and effective biometrics as well as high integrity against counterfeiting and forgery.

3. **Document Issuance and Control:** implement effective processes and protocols for the issuance of MRTDs to authorized holders only, including emergency issuance where warranted while ensuring the security against theft, tampering and loss.

4. **Inspection Systems and Tools:** Implement technologies, supporting infrastructure, information-sharing and related protocols and procedures to support timely, efficient, secure and reliable reading of MRTDs at borders and verification of the validity of the MRTD for the holder, including by the use of the ICAO Public Key Directory (PKD) to confirm that e-passports presented to authorities remain legitimately issued and active (i.e., not lost, stolen, compromised or revoked).

5. **Interoperable Applications:** Implement systems, technologies and protocols that provide for the ready, secure and reliable linkage of MRTDs and their legitimate holders to relevant intelligence and information about the holder and/or his/her background, movements and actions of interest, in support of security and travel facilitation. Interoperable applications include such functions and linkages as Passenger Name Record (PNR) data, Advance Passenger Information (API), State-managed security "watch lists" and State-recognized "known," "trusted" and/or "expedited" travellers and shippers (or equivalent).



THE 5 ELEMENTS OF THE ICAO TRIP STRATEGY

EVIDENCE OF IDENTITY

MRTDs

DOCUMENT ISSUANCE & CONTROL

INSPECTION SYSTEM & TOOLS

INTEROPERABLE APPLICATIONS

## INVOLVEMENT OF STAKEHOLDERS

A wide array of State authorities and other entities have mandates and interests in traveller identification. These include State-level agencies, regional and international organizations concerned with services such as civil registries, passport issuance, visa issuance, security, trade and tourism, immigration / migration, border controls, law enforcement, treaties – human rights, refugees, stateless persons, special events (Olympics, international meetings such as G7/G20) and emergencies (identification of victims and survivors).

All States have mandates for, and interests in, the efficient and effective operation of their immigration / migration, trade and travel (including tourism) and border control functions, all of which have requirements for secure, reliable and efficient traveller identification.
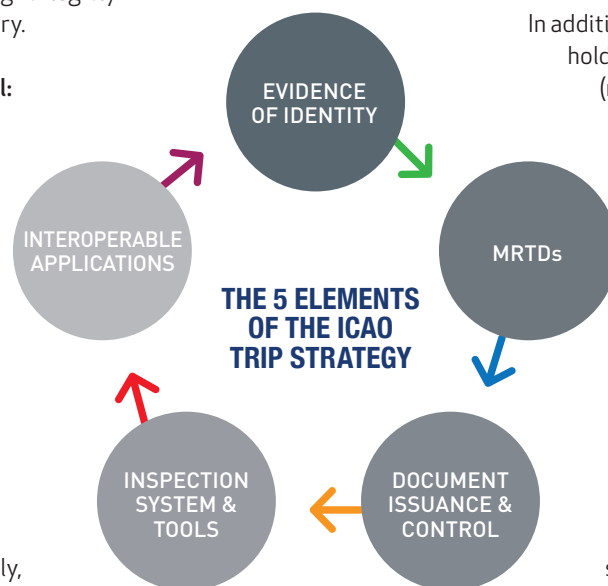
In addition, there are the individual document holders who use formal travel documents (most notably passports) for a wide range of purposes well beyond border crossing and international travel. These include routine transactions where credible sources of identification are either required or expeditious, such as banking, currency exchange, vehicle and equipment rental, domestic travel, and application processes for access to civil programs, services and benefits.

ICAO's knowledge, technologies, insights and experiences in the production, management and use of secure identification documents, tools and processes can be shared and efficiently adapted and applied to the needs of other travel document issues and users.

## THE ICAO TRIP ROADMAP

The ICAO TRIP roadmap has been developed in the context of the *No Country Left Behind* initiative but also in light of UN Security Council Resolutions 2178 and 2309, which address the acute and growing threat posed by foreign terrorist fighters (FTF): "Reaffirms that all States shall prevent the movement of terrorists or terrorist groups by effective border controls and controls on issuance of identity papers and travel documents, and through measures for preventing counterfeiting, forgery or fraudulent use of identity papers and travel documents…" and "…calls upon all States to require that airlines operating in their territories provide advance passenger information to the appropriate national authorities in order to detect the departure from their territories, or attempted entry into or transit through their territories, by means of civil aircraft, of individuals designated

by the Committee …" The UN Security Council has thus mandated States to "require" advance passenger information from airlines.

The UN counter-terrorism bodies also included a non-binding recommendation on the use of Passenger Name Records (PNR), encouraging airlines to provide data, where appropriate, to the appropriate national authorities. Since most FTFs use legitimate travel documents, the use of PNR will allow States to better understand travel patterns of terrorist fighters, and to share practices in evidence-based traveller risk assessment and border screening.

The 39th Session of the Assembly endorsed the priorities for the ICAO TRIP Strategy and expected outcomes for the 2017-2019 triennium. Assembly Resolution A39-20, *Consolidated statement of continuing ICAO policies related to facilitation*, identified national and international action in ensuring the security and integrity of traveller identification and border controls. Specifically, the Assembly urged Member States, through their travel document and border control programmes, to uniquely identify individuals to maximize security and facilitation benefits, including preventing acts of unlawful interference and other threats to civil aviation.

The ICAO TRIP roadmap is based on the global analysis of the Universal Security Audit Programme Continuous Monitoring Approach (USAP-CMA) results for Annex 9 security-related Standards and Recommended Practices (SARPs) from 178 second-cycle audit results. In implementing the TRIP roadmap, Member States will first need to continue focussing on implementing the TRIP-related SARPs in Annex 9 and the associated technical specifications for MRTDs in Doc 9303. The Secretariat has identified 48 SARPs in the 14th edition of Annex 9 – Facilitation that relate to the elements of the TRIP Strategy.

At the national level, implementation of the roadmap will require coordinated action between many government and industry entities such as passport issuing offices, aviation security authorities, civil registries, border control and law enforcement agencies, airlines, airport authorities, the travel document industry, immigration authorities and other interested parties.

ICAO's leadership is essential to the success of the achievement of this roadmap, focusing on enhancing aviation security and improving facilitation with the objective to provide States with a blueprint that sets out the elements that must be in place – to move, for example, from Machine Readable Passports (MRPs) to ePassports – and possess excellent breeder documents and sufficient financial resources.

There are a number of broader cross-cutting initiatives that are being pursued, including most notably those dealing with outreach to all the involved stakeholders, promotion of the integrity and benefits of secure traveller identification, expansion of assistance and capacity-building efforts for States in need, and enhancement of assessment missions and assistance from the Regional Offices. ■

## RESOURCES

**ICAO TRIP Implementation Roadmap for Member States**
https://www.icao.int/Security/FAL/TRIP/Documents/ICAO%20TRIP%20Implementation%20Roadmap.%20July%202017.pdf

**The evolving ICAO TRIP work effort is supported by guidance published at** https://www.icao.int/Security/FAL/TRIP/Pages/Publications.aspx.

# HIDDEN IN PLANE SIGHT

## HUMAN TRAFFICKING BY AIR IS A CRIME FEW WANT TO TALK ABOUT, BUT FORMAL TRAINING OF AIRCREWS AND AIRPORT PERSONNEL COULD HELP TO AID PREVENTION

**The stories are numerous, endless and sad.**

On a May 2016 flight from London to Chicago, a frightened, seven-year-old Albanian girl onboard appeared to observant flight attendants to be a victim of human trafficking. When a senior flight attendant tried to learn more about her, an older man traveling with her told the flight attendant not to interfere because he had purchased the girl. She was his property. The flight attendant informed the Captain to notify law enforcement, in accordance with airline procedure. Concerned about ruining the man's life by making a false accusation, the Captain did not notify authorities. And the man and the young girl vanished once the plane landed.

*The United Nations Office on Drugs and Crime (UNODC) defines trafficking as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion.*

In plain English: human trafficking is a lucrative form of slavery in our modern era, a cancer with no apparent cure.

Law enforcement considers human trafficking a particularly sinister crime because it often strikes the most vulnerable in society, children or young girls sold into forced labour or prostitution. UNODC estimates the average age of an abducted girl is 12-14 years and 11-13 for trafficked boys. Various law enforcement agencies state that human trafficking is the world's second most profitable crime worldwide, behind drug trafficking. As of 2014, human trafficking earned traffickers US$150 billion a year, $99 billion from commercial sexual exploitation, according to the International Labor Organization (ILO).

Despite significant interest by the United Nations, various governments and businesses, including airlines, the subject of human trafficking does not appear to be a high priority, according to experts. However, work continues among some committed government agencies, airlines, airports and related associations.

"We haven't made very good strides in the 16 years of working on it," said Ms Sherry Saehlenou, founder of Avion Training LLC. Ms Saehlenou became aware of the problem many years ago as a flight attendant with Pan American World Airways. [Ms Saehlenou is a member of the ICAO Cabin Safety working group and a cabin safety representative to the Next Generation of Aviation Professionals (NGAP) outreach task force.]

> "Almost every country in the world is involved in human trafficking as a supplier, transit or destination of victims."

Airlines and other organizations can't comprehend the idea of human trafficking, particularly of children, and are at a loss as to how to combat the horror.

"It's a subject people don't want to talk about or really know exists," said Ms Saehlenou. "People don't want to hear about the dark side of life. It is too overwhelming and sad."

Compounding human trafficking is a class-system based bigotry among some cultures. Traffickers regard victims as lesser human beings, commodities. Victims include ethnic minorities of children and women, mostly. Asia remains the largest provider of victims of human trafficking, according to the ILO.

## DETERMINATION & TRAINING

Despite the enormity of the problem, and the lack of will by some in air transportation, there are several organizations committed to fighting human trafficking, whether by air, land or sea. Innocents at Risk and Airline Ambassadors International (AAI) are two groups dedicated to reducing human trafficking. Both organizations keep the subject on the front burner and often brief government leaders, airlines and airports on the subject.

AAI has developed a training curriculum for airlines, airports and the hospitality industry that is similar to the Blue Campaign of the US Department of Homeland Security (DHS), which includes the Transportation Security Administration (TSA).

AAI's one-day training programme includes the history of human trafficking and tips on how to recognize trafficking in-flight, as well as protocols on how to report trafficking to law enforcement. The AAI training team often includes a survivor of human trafficking.

Knowing what to look for is a key aspect of the training. Signs of human trafficking include:
- The person being trafficked is inappropriately dressed for travel.
- A vacant or scared look about them; they are afraid to talk about themselves without looking to another person. Or they speak like they have been coached, their words rehearsed.
- Unaware of any flight details and not in control of their travel documents. They also might not have any personal items.
- Doesn't know their final destination.

Often the victim is ravenous. They might have bruises or cigarette burns or even be under the influence of drugs or alcohol.

The AAI training is tailored to the travel industry, segments of the airline and airport business, hotel and tourism industries, law enforcement and ground transportation businesses. AAI claims to be the first organization to have their human trafficking curriculum adopted by the International Tourism Management Institute. Having a trained cabin crew acts as a first line of defence against traffickers.

"We realized some time ago that the training of airline personnel on human trafficking would be a turnkey solution in identifying traffickers and trafficking victims," said AAI founder Ms Nancy Rivard. "And it would cost almost nothing because the airlines already have the infrastructure." She added, "It is absolutely essential for airlines to train their staff on human trafficking."

IN 2009, AAI's mission was expanded to help protect people – children and young women mainly – from traffickers. In 2010, AAI conducted the first industry-specific training programme on human trafficking. Since then, the organization has conducted more than 40 training sessions to over 4,000 individuals in the US, Ukraine, Hungary, Latvia and Colombia.

To help notify authorities, Airline Ambassadors developed a Tip Line App, which can be downloaded for free from Google or iTunes, and takes you directly to law enforcement. The app is available in numerous languages.

Determining how many are trafficked today by air is difficult. The last estimate in 2004 indicated that between 600,000 and 800,000 individuals were annually trafficked by air, said Ms Rivard, who recalled another story of human trafficking by air that had a better ending.

On an American Airlines flight from Europe to the US, backpackers asked senior flight attendant Ms Sandi Fiorini to help a teenage girl traveling alone, who didn't speak English. Someone had handed the young girl to them to help her board a flight to Washington, DC. But when the plane landed, no one was there to meet the girl. She did have a phone number. Ms Fiorini called the number but the man answering became angry, saying the girl arrived earlier than expected. Fearing that the girl was a victim of human trafficking, Ms Fiorini called the authorities and the young girl was saved.

While this is a success story, there are thousands of victims of human trafficking that are not rescued. Flight attendants have been particularly vocal about the need for in-depth awareness training, and they support current legislation before the US Congress that would mandate training of certain employees.

"Human trafficking training should be universal," said Ms Debra Sutor, International Vice President for the Association of Flight Attendants (AFA). "It should not be left up to the carrier. It should be mandatory."

Mr Stephen Schembs, AFA Government Affairs Director, agreed, saying the voluntary programmes were well-intentioned but inadequate and need to be adopted industry-wide. "We have been frustrated about getting this training into airlines voluntarily. Which is why we seek to have this corrected legislatively."

Pilot groups have been supportive of human trafficking awareness training. "The Air Line Pilots Association International (ALPA) is a strong supporter of government and private anti-human trafficking efforts and is committed to helping maintain a safe environment for all our passengers," said ALPA President Captain Tim Canoll.

In a survey of international airline professionals last year, two-thirds were "a little familiar" with the subject of human trafficking, but 15 percent said they were "not at all familiar," according to Ms Saehlenou. A large majority, 84 percent, said they deemed it a very important issue but that their employer did not provide any kind of training.

Ms Saehlenou said, "Training, in most cases, is inadequate, ranging anywhere from a page in the flight attendant handbook to a 15-minute computer-based training session. Sadly, it is not enough."

### AWARENESS PROGRESS

Airlines, management particularly, have been slow to embrace human trafficking awareness training collectively, but there are leaders in this effort. Delta Air Lines, Aer Lingus, JetBlue Airways, American Airlines and Silver Airways, a Miami-based regional airline, have initiated classroom and online training programmes designed to teach cabin crew how to spot traffickers and their victims. Part of the training stresses the need to recognize the signs of human trafficking.

# "It's a subject people don't want to talk about or really know exists."

## – Ms Sherry Saehlenou, Founder, Avion Training LLC

Air France was one of the first airlines to address the problem years ago with in-flight videos and notices to employees about human trafficking.

Atlanta-based Delta is actively involved in human trafficking awareness training and has adopted anti-trafficking policies. In 2011, Delta became the first US carrier to sign a Code of Conduct outlined by the End Child Prostitution, Pornography and Trafficking initiative, which includes a network of organizations working together to eliminate the commercial sexual exploitation of children. Two years later, Delta adopted the Human Rights Abuses policy, which requires all employees to report "actions that indicate a passenger or employee is engaged in human trafficking."

Delta also implemented the DHS Blue Lightning training programme / protocol in September 2013. This is a computer-

based training programme that provides airlines with tools to help identify and report instances of human trafficking. Today, more than 68,000 Delta employees have taken the training. It is part of initial and recurrent training for airport customer service, reservation sales and customer care, flight operations and in-flight service divisions, as well as for many merit employees.

Aer Lingus, a subsidiary of the International Airlines Group (IAG), the parent company of British Airways, Iberia and Vueling, is ramping up its human trafficking awareness training programmes in a two-step process. The carrier recently launched a training programme for all front-of-house staff. Aer Lingus is working with the Hope for Justice charity, a UK and Irish organization that has rescued numerous victims of trafficking. The charity provides training and guidance for various organizations and government agencies, including law enforcement in the UK and Ireland.

Part of this initiative is a train-the-trainer programme, and cabin crew and operations personnel are part of the initial training effort. Employees will get general information on human trafficking training and tips for cabin and flight crew on how to spot traffickers and their victims.

Over the next few months, Aer Lingus will launch its own human trafficking awareness training programme. Specific courses for cabin and flight crew are being developed, and another course for ground staff. For the 2017 module, all cabin and flight crew and newly hired crew will receive awareness training.

"Human trafficking is a problem for every country in Europe," said Mr Noel Houlihan, Safety Training Officer for the In-Flight Safety and Training Department, Aer Lingus Training Academy. As a result, "we are very keen to introduce this training, which is needed to combat the growing problem," he added.

Legislation recently passed in the UK, which affects Aer Lingus because it is part of the UK-registered IAG, mandates that all airlines provide human trafficking awareness training for all staff.

Sometimes well-intentioned employees and security personnel looking for criminal activity, including human trafficking, get it wrong and could indicate why better training could help. In December 2016, eight members of a Korean girl band were detained at Los Angeles International Airport because authorities suspected they were sex workers. When, in fact, the pop group "Oh My Girl" travelled to the US for a photo shoot. The octet was carrying numerous costumes and props, which raised the suspicion of customs officials. The girls were detained for 15 hours and released.

The number of airlines actively involved in human trafficking awareness training pales in comparison to the number of carriers worldwide that do not. In the US, there are reasons why some carriers shy away from being part of the DHS training effort.

One wrinkle to the Blue Lightning Protocol run by DHS's Customs and Border Protection division is a requirement that participating airlines sign a Memorandum of Understanding about the training. Several airlines decline to sign the MoU because of possible legal implications and time required for training, said Ms Rivard. Consequently, widespread acceptance of Blue Lightning among US airlines remains spotty.

Nevertheless, there is mounting concern, among cabin crew particularly, that human trafficking by air will not diminish unless airline personnel are properly prepared to deal with this vile crime. ■
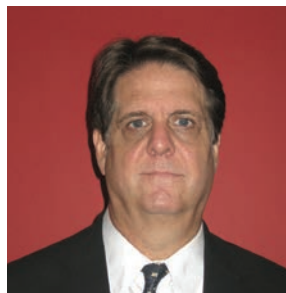
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**2017 AEROSPACE MEDIA AWARDS WINNER**
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# ICAO, OHCHR, ACI AWARENESS INITIATIVES

ICAO and the United Nations High Commissioner for Human Rights (OHCHR), are developing joint ICAO-OHCHR human trafficking cabin crew guidelines on training, an outgrowth of the recent 11th meeting of the ICAO Cabin Safety Group. The guidelines will help improve understanding of why trafficking happens, various types of trafficking, who are the victims and traffickers, and what signals might indicate a trafficking. The document will also provide cabin crew with reporting and response procedures should they find themselves confronting a potential trafficking situation.

ICAO and OHCHR will also explore developing an e-Learning module for cabin crew and a video that can be used on board commercial flights to raise awareness among passengers.

It is crucial that cabin crew abide by the principle of 'first, do no harm.' "The concept of 'Do No Harm' is to ensure that a potential victim is not further jeopardized and to ensure crew and passenger personal safety," explained ICAO Safety, Efficiency and Operations Officer Mr Martin Maurino. "This means cabin crew should be discreet with the discussions and relaying of information to avoid raising suspicion – act normally, do not display unusual concern or alarm. Crew should not confront the trafficker or attempt to rescue the victim. This must be undertaken by authorities on the ground following coordination through the Captain."

At its 2016 annual general meeting, Airports Council International (ACI) passed a resolution committing to promoting awareness of human trafficking through media,

providing access to training materials and materials for distribution, encouraging the incorporation of training into airport staff security awareness programmes on how to detect and report the signs of human trafficking, and to support activities, where possible, of governments, charities and non-governmental organizations who are involved in the prevention of human trafficking.

Ms Angela Gittens, Director-General, ACI World, stated: "The community of airports have joined forces to combat human trafficking by promoting awareness to the public. Furthermore, ACI's Global Training department is developing courses that assist airport staff in recognizing and dealing with trafficking situations. We can all play our part in contributing to promoting just and peaceful societies through education, vigilance and a strong reporting culture."

**TO FIND OUT MORE ABOUT HUMAN TRAFFICKING AWARENESS:**
**Blue Heart Campaign, United Nations Office on Drugs and Crime (UNODC) -** http://www.unodc.org/blueheart/en/about-us.html

**UNODC on human trafficking and migrant smuggling -** https://www.unodc.org/unodc/human-trafficking/

**Airline Ambassadors International -** http://airlineamb.org/

# ICAO | UNITING AVIATION

# SAVE THE DATE
## 2017 Events on the horizon

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

\* All event dates are subject to change

**For more information regarding sponsorships and exhibitions, please contact mcr@icao.int**

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**MEXICO**
Centro Internacional de Instrucción de Aeropuertos y Servicios Auxiliares. Ingeniero Roberto Kobeh González ●

**TRINIDAD AND TOBAGO**
Trinidad and Tobago Civil Aviation Authority Civil Aviation Training Centre ●

**UNITED STATES**
Federal Aviation Administration (FAA) Academy ●

The Washington Consulting Group (WCG), Inc. The Technical Training Group ●

### SOUTH AMERICA (10)

**ARGENTINA**
Centro de Instrucción, Perfeccionamiento y Experimentación (CIPE) ●

**BOLIVIA**
Instituto Nacional de Aviación Civil (INAC) ●

**BRAZIL**
Centro de Treinamento da Agencia Nacional de Aviação Civil (ANAC) ●

**COLOMBIA**
Centro de Estudios de Ciencias Aeronáuticas - CEA ●

Corporación Educativa Indoamericana (CEI) ●

**ECUADOR**
Escuela Técnica de Aviación Civil (ETAC) ●

**PARAGUAY**
Instituto Nacional de Aeronáutica Civil (INAC) ●

**PERU**
Centro de Instrucción de Aviación Civil (CIAC) de CORPAC ●

**URUGUAY**
Instituto de Adiestramiento Aeronáutico - DINACIA ●

**VENEZUELA**
Instituto Universitario de Aeronáutica Civil (IUAC) ●

### EUROPE (19)

**BELGIUM**
Wallonie Aerotraining Network (WAN) ●

**FRANCE**
CAMAS International ●

Français de Formation des Pompiers d'Aéroport (C2FPA) ●

Ecole Nationale de l'Aviation Civile (ENAC) ●

**GERMANY**
Aviation Academy International (AAI) ●

Star Wings Aviation Training Centre GmbH

As of 1 July 2017.

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Ethiopian Civil Aviation Training Centre (ECATC) ● ★

**KENYA**
East African School of Aviation (EASA) ●

**MAURITIUS**
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Académie Internationale Mohamed VI de l'Aviation Civile (AIAC) ●

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**SENEGAL**
Ecole Régionale de la Navigation Aérienne et Management (ERNAM) ●

**SOUTH AFRICA**
Air Traffic and Navigation Services (ATNS) – Aviation Training Academy ●

**SUDAN**
Sudan Academy for Aviation Sciences and Technology (SUDAFAST) ●

**TANZANIA**
Civil Aviation Training Centre (CATC) ●

**TUNISIA**
Académie Tuniso-Française de Formation en Sûreté de l'Aviation Civile (AFSAC) ● ★

## MIDDLE EAST (11)

**EGYPT**
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Egyptian Aviation Academy (EAA) ●

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**IRAN (ISLAMIC REPUBLIC OF)**
Civil Aviation Technology College (CATC) ●

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Queen Noor Civil Aviation Technical College (QNCATC) ●

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Incheon Airport Aviation Academy (IAAA) ●

**SINGAPORE**
Singapore Aviation Academy (SAA) ●

**SRI LANKA**
Civil Aviation Training Centre (CATC) ●

Sri Lankan Aviation College ●

**THAILAND**
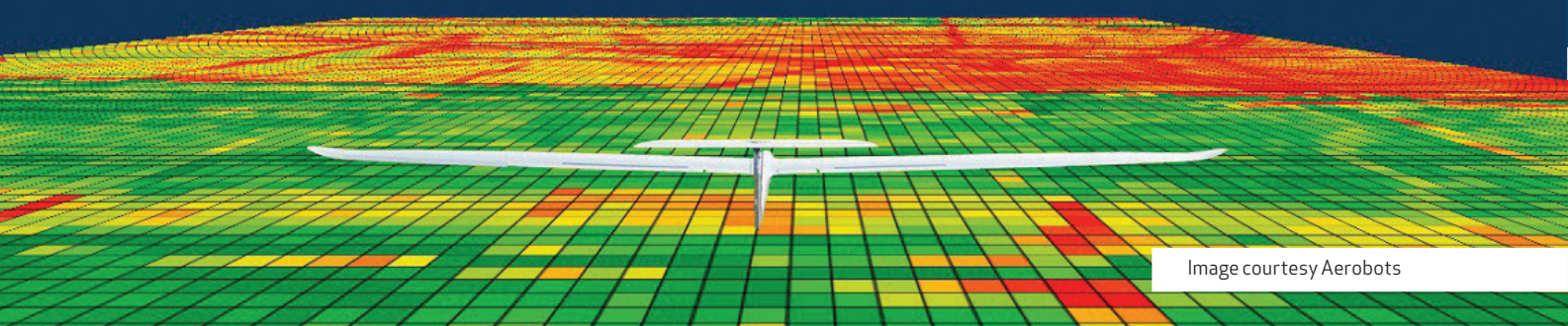Civil Aviation Training Centre (CATC) ●

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As of 1 July 2017.

Image courtesy Aerobots

# IPAV VOLUNTEER ASSISTING GUATEMALA ON AVLAW

✈ Like many States, Guatemala is dealing with the dynamics of aviation traffic growth and emerging technologies. Recovering from a dip during the global financial crisis that began in 2008, passenger traffic in 2014 and 2015 averaged double-digit increases. There are now 15 airlines serving the country.

The country is among the early adopters of unmanned aerial vehicle (UAV) integration. In March, the Guatemalan Department of Civil Aviation (*DGAC, Dirección General de Aeronáutica Civil*) granted Aerobots Inc. certification to deploy beyond visual line of sight (BVLOS) drones for high-altitude, high-endurance aerial surveying operations. The operating permit will allow Aerobots to integrate its operations with the local flying authorities and co-exist in Guatemala's airspace with daily flight operations.

In its 2015 ICAO Universal Safety Oversight Audit Performance (USOAP), Guatemala scored above 80 percent in licensing and more than 60 percent in legislation, operations, accident investigation, and air navigation services.

The area most lacking, organization, was below 40 percent Level of Effective Implementation (EI). So the DGAC turned to ICAO for assistance, specifically the new ICAO Programme for Aviation Volunteers (IPAV), which was established in 2016. Mr Carlos Velasquez, Director-General of the Guatemala DGAC, requested the support of an aviation legislation expert. "The objectives of the legislation expert included reviewing the current civil aviation organization, including the functions and responsibilities of the DGCA, and advising on legal and constitutional matters related to the development of air law, drafts, and statutes for incorporation into national legislation," Mr Velasquez explained.
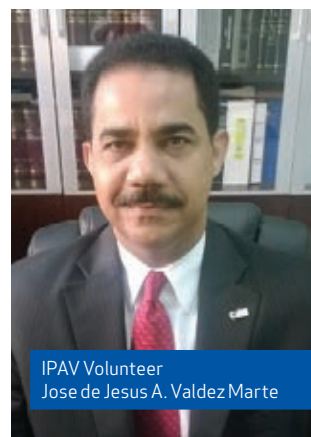
"We wanted an independent, objective, expert observer to look at our aviation legislation, operating regulations, licensing, operators' certification for flight safety and airworthiness, and propose organizational plans for the legal department, including training, as well as establishment of a library of relevant air law documents."

The expert selected with assistance and oversight of ICAO's Technical Cooperation Bureau (TCB) was Lic. Jose de Jesus A. Valdez Marte of the Dominican Republic. Mr Marte was a member of the Dominican delegation to ICAO from 2007-2016, including Assemblies 36, 37, 38, and 39. He holds a Master's in Law from Universidad APEC in Santo Domingo, a Mastery in Constitutional law from Universidad Iberoamericana (UNIBE), and is certified by the Latin-American Association of Aviation Law, Buenos Aires, Argentina. From 2005-2007, Mr Marte was Assistant Director in the Headquarters of Civil Aeronautics (DGAC), Dominica. Since 2007, he has been Assistant Director in charge of the Legal Direction of the Dominican Institute of Civil Aviation (IDAC).

"It was an honour to have this unique opportunity to assist a fellow State in the region in their objective of updating and refining relevant civil aviation law," Mr Marte said. At a meeting with the President of the Congress of Guatemala, Mr Oscar Chinchilla, ICAO Secretary General Dr Fang Liu emphasized the importance of ensuring that Guatemala has a revised and updated legal framework, and expressed appreciation to the government for their proactive actions toward a revised law that will help the country ensure an autonomous aviation authority.

The ICAO Programme for Aviation Volunteers (IPAV), which supports the Organization's *No Country Left Behind* initiative, provides short-term assistance to States in addressing shortcomings identified during audits in order to achieve high levels of EI of ICAO Standards and Recommended Practices (SARPs). Participation in the IPAV is open to all aviation professionals from ICAO, the aviation industry, States and the private sector, subject to review of credentials by ICAO. ■



IPAV Volunteer
Jose de Jesus A. Valdez Marte

**ICAO PROGRAMME FOR AVIATION VOLUNTEERS (IPAV)**
https://www.icao.int/secretariat/TechnicalCooperation/
Pages/icao-programme-for-aviation-volunteers-ipav.aspx

# SPECIAL SITUATIONS COUNTRIES ARE SDG PARTNERSHIP FOCUS



**EVENT**
High-Level Political Forum on Sustainable Development, 17-19 July 2017

**ORGANIZERS**
UN Economic and Social Council (ECOSOC)

**HOST**
United Nations Headquarters, New York City

**PARTICIPANTS**
Nearly 2,500 participants, including 65 Ministers, Cabinet Secretaries, Deputy Ministers heading the delegations of States.

**KEY OUTCOMES**
- Opportunity for ICAO to advocate for aviation to State authorities outside the air transport sector, the United Nations system, the donor community and other relevant stakeholders.

- ICAO hosted an Aviation Partnerships for Sustainable Development (APSD) side event, *High Level Briefing on Aviation Contributions to Sustainable Development in Countries in Special Situations.*

"It's clear that … global economies are improving, probably more slowly than we would like, but the areas of fragility are also increasing – political fragility, institutional fragility, but also development fragility, and societal fragility; and fragilities to a large extent are responsible for many of the conflicts today," said United Nations Secretary General, Mr Antònio Guterres, to delegates at the High-Level Political Forum (HLPF) onSustainable Development. "If one looks at the global megatrends – population growth, climate change, food insecurity, water scarcity, chaotic urbanization in certain parts of the world – it is also true that all these megatrends are interacting with each other, are stressing each other."

"Challenges are more and more global," Mr Guterres noted. "There is no way any country can solve them by itself, and so we need global answers and we need multilateral governance forms, and we need to be able to overcome this deficit of trust, and that in my opinion is the enormous potential of the Agenda 2030; because the Agenda 2030 is an agenda aiming at a fair globalization, it's an agenda aiming at not leaving anyone behind, eradicating poverty and creating conditions for people to trust again in not only political systems but also in multilateral forms of governance and in international organizations like the UN."

Representatives of ICAO, led by Mr Henry Gourdji, Deputy Director, Monitoring and Oversight Branch, Air Navigation Bureau (ANB), participated in the annual event, highlighting the crucial contributions international aviation makes to achievement of the UN's Agenda 2030 Sustainable Development Goals (SDGs). Indeed, Mr Gourdji pointed out, ICAO directly supports 15 of the 17 SDGs. He encouraged States to integrated aviation in their development plans and to facilitate access to funding of sustainable aviation development projects.

Representing the voice of aviation, ICAO advocated air transport as a cornerstone and catalyst for global connectivity, economic growth and social development. "ICAO raised awareness that aviation is vital to bringing humanitarian aid throughout the world and responding to crises and public health emergencies, especially in Countries in Special Situations. The Organization highlighted that our innovative and committed industry protects the global environment and ecosystems while addressing climate change," noted ICAO Aviation Safety Officer Ms Jimena Blumenkron.

Ms Thilly de Bodt, Chief of Partnerships and Resource Mobilization, pointed to ways ICAO is "assisting Member States to liberalize air

transport and to close the infrastructure gaps that exist among them so that *No Country is Left Behind* in achieving their optimal air transport potential." For example, ICAO initiated the development of regional cooperation and assistance to improve States' safety oversight capabilities and resolve safety-related deficiencies (ICAO Assembly Resolutions A35-7 and A37-8 superseded by A38-5). Ms De Bodt urged "all Member States to prioritize aviation in their national development plans and include the sector when presenting national reviews in this forum."

The theme of the 2017 HLPF was "Eradicating poverty and promoting prosperity in a changing world." H.E. Mr Frederick Musiiwa Makamure Shava, President of meeting host ECOSOC (UN Economic and Social Council), noted that more than 767 million people lived in extreme poverty. In addition, inequalities remain deep, conflicts and terrorism threaten humanity, and global temperatures are on the rise. He said the event brought "the interconnectedness of the economic, environmental and social dimensions of sustainable development to the forefront" and that "resilient and safe infrastructure that supports national development are noted enablers for poverty eradication."

The establishment of the HLPF was mandated by the UN Conference on Sustainable Development (Rio+20) in 2012. The Forum meets annually under the auspices of the ECOSOC and every four years at the level of Heads of State and Government under the auspices of the UN General Assembly. The HLPF is the main United Nations platform on sustainable development and it has a central role in the follow-up and review of the 2030 Agenda SDGs.

## SPECIAL SITUATIONS PARTNER EVENT
ICAO hosted a side event, *High level Briefing on Aviation Contributions to Sustainable Development in Countries in Special Situations*, together with its partners in the Aviation Partnerships for Sustainable Development (APSD): the United Nations

Department of Economic and Social Affairs (UN-DESA), the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States (UN-OHRLLS), World Bank Group, and the Air Transport Action Group (ATAG).

The objective of the APSD is to advocate for sustainable aviation development within States, while involving the UN system, international and regional organizations, financial institutions and the private sector, as well as to broaden the outreach in States to obtain the engagement of high-level authorities beyond the air transport sector.

The side event featured some 40 participants representing Member States that included Mali, New Zealand, Niger, Palau, Russian Federation, Saint Lucia, Singapore, Sudan and Zambia, the UN system, international and regional organizations, financial institutions and the private sector. The briefing was moderated by Ms Irena Zubcevic, Chief, Small Island Developing States (SIDS), Oceans and Climate Branch, Division for Sustainable Development, UN-DESA.

Ms Fekitamoeloa Katoa 'Utoikamanu, Under-Secretary-General and High Representative for UN-OHRLLS, said, "Sustainable transport is really an enabling and cross-cutting issue for all countries and especially for the LDCs (Least Developed Countries), LLDCs (Landlocked Developing Countries) and SIDS, which are way behind others in the overall level of their national development and prosperity. The connections created by air transport represent an important infrastructure that generates additional benefits through enabling foreign investment and other spill-over impacts on an economy. Air transport is especially important for the tourism sector which plays an important role in building up economies, providing employment and generating business opportunities. It also facilitates the trade of goods that are of high value or that are time-sensitive, such as perishable agricultural products, documents, pharmaceuticals, fashion garments or electronics consumer goods."

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"Agenda 2030 is... aiming at a fair globalization... at not leaving anyone behind, eradicating poverty and creating conditions for people to trust again."

– Mr Antònio Guterres,
United Nations Secretary General

"These countries have difficulties securing the necessary investments and partnerships. In addition, creating a resilient aviation infrastructure and developing the skills and capacities needed to maintain it and safely operate it requires a substantial increase in capacity building and transfer of know-how. The LDCs, LLDCs and SIDS therefore require support for the hard physical infrastructure, as well as the soft infrastructure which includes the implementation of legal and regulatory frameworks, policies and institutions."

Mr Brian Mushimba, Minister of Transport and Communications, Zambia, said, "Air transport is a socio-economic enabler of development in Zambia and other landlocked developing countries. Air transport plays a key role in promoting exports, especially horticultural products like fresh organic vegetables, fruits and flowers, also poultry, mineral and precious stones. Air transport is key in promoting tourism, commerce and trade."

He said Zambia has invested massively in the aviation sector, starting with the transformation of the Department of Civil Aviation into an autonomous Civil Aviation Authority for the effective regulatory oversight of civil aviation. Government has also focused on the development of new modern international and domestic Aerodromes to conform to ICAO Standards, and scored an Effective Implementation (EI) of more than 60 percent, earning an ICAO President's Certificate in 2016.

For countries in special situations, such as LDCs, LLDCs, and SIDs, aviation represents an essential lifeline to connect to the world. Mr Michael Gill, Executive Director of ATAG, highlighted that 54 percent of international tourists are transported by air, as well as 35 percent of global trade (US\$6.8 trillion). For developing countries, air transport represents 38 million jobs and \$561 billion in GDP – 1.2 billion passengers (36% of passengers globally), 832 airlines, and 10,011 aircraft in service. For SIDs, air transport is linked to 1.4 million jobs and \$25.3 billion GDP on the strength of 89 million passengers, 59 airlines, and 368 aircraft.

A poorly funded and neglected aviation industry, which does not meet international requirements adopted by ICAO, has been proven to raise risks and barriers for the sustainable development of States. Focusing on the prioritization and financing for development of sustainable air transport systems in these States has the potential to unlock the benefits sustainable aviation generates. ∎

# DR ALIU DISCUSSES SUSTAINABLE GROWTH IN NIGERIA



President of the ICAO Council, Dr Olumuyiwa Benard Aliu (left), and the Acting President of the Federal Republic of Nigeria, H. E. Yemi Osinbajo, at a recent bilateral meeting, concurred on the need to heighten preparation and investment to sustainably manage anticipated traffic growth and fully capitalize on the significant progress the country has already achieved in developing its air transport sector.

Dr Aliu was accompanied by the Representatives of Cabo Verde, Nigeria and South Africa on the ICAO Council, Mr Carlos Monteiro, Capt Musa Shaibou Nuhu, and Mr Tshepo Peegee, respectively. Dr Aliu also conducted bilateral meetings with H. E. Yemi Osinbajo, the Honourable Minister of State for Aviation, Senator Hadi Sirika and the Honourable Minister of the Federal Capital Territory (Abuja), Mr Muhammad Musa Bello. The meetings were also attended by ICAO's Regional Director for Western and Central Africa, Mr Mam Sait Jallow, Regional Director for Eastern and Southern Africa, Mr Barry Kashambo, and Deputy Director, Air Navigation Bureau, Mr Catalin Radu.

President Osinbajo highlighted the prioritization of the aviation sector within the country's national developmental strategy. H. E. Osinbajo affirmed the importance of ICAO's contributions to Nigeria and the country's ambitions to develop as a regional air transport hub, highlighting ongoing efforts to encourage private sector participation to facilitate the mobilization of the required capital investment.

Focusing on human resources capacity building and aviation infrastructure development, Dr Aliu stressed the need for preparation in order to ensure the sustainable management of air traffic growth and fully benefit from the opportunities it offers.

Dr Aliu reiterated that the sustainable development of aviation in Nigeria calls for the strengthening of the autonomy of its Civil Aviation Authority and reinvestment of aviation revenues into the sector, and stressed ICAO's commitment to supporting Nigeria as it addresses these issues, through its *No Country Left Behind* initiative and the ICAO Western and Central Africa Regional Office.

The Council President also met with heads of Nigeria's aviation parastatals – the Nigerian Civil Aviation Authority, Nigerian Airspace Management Agency, Federal Airports Authority of Nigeria and Nigerian Meteorological Agency as well as the Nigerian College of Aviation Training – and visited the Nnamdi Azikiwe International Airport of Abuja, where significant progress on infrastructure is being achieved.

The bilateral initiatives were complemented by Dr Aliu's meeting with the Vice President of the Commission of the Economic Community of West African States (ECOWAS), the Honourable Edward Singhateh, and the Executive Director and Staff of the Banjul Accord Regional Aviation Safety Oversight Organization (BAGASOO).

# AFI WEEK EMPHASIZES CONTINUED PROGRESS

✈ **African States, with ICAO's assistance and support, are achieving significant progress in complying with international civil aviation standards, but much more can and should be achieved to help them better optimize the significant socio-economic benefits of safe and efficient global air transport connectivity. Those were the key messages delivered by Dr Fang Liu, ICAO Secretary General, during the Fourth Aviation Week for the Africa and Indian-Ocean (AFI) Region.**

AFI Week featured a dual focus with the 4th AFI Aviation Safety Symposium and the 2nd AFI Security Symposium, as well as Steering Committee meetings for the Comprehensive Regional Implementation Plan for Aviation Safety in Africa (AFI Plan) and the Comprehensive Regional Implementation Plan for Security and Facilitation (AFI SECFAL Plan). The series of meetings were under the theme "Strengthening Aviation as a Driver to Economic and Social Development."

"Through these annual ICAO AFI Aviation events," Dr Liu said, "we are presented with a unique opportunity to jointly assess your Region's challenges, and to harness applicable opportunities as we continue to pursue our global and regional goals."

Addressing safety areas, Dr Liu noted, "the continued commitment by African States toward implementation of the accepted ICAO Plans of Action and your collective agreement to attain identified continental targets." In the past year, an increasing number of States have attained or improved upon the 60 percent minimum Effective Implementation (EI) target in *ICAO's Global Aviation Safety Plan (GASP)*. Nearly one-third of States registered "appreciable increases" in their EIs. Eight African States – Botswana, Cameroon, Egypt, Madagascar, Mali, Niger, Togo and Zambia – were awarded ICAO President Certificates in 2016 or 2017 in recognition of their progress toward implementation of ICAO Standards and Recommended Practices (SARPs) and the Universal Safety Oversight Audit Programme

(USOAP). The goals for the region include 60 percent EI by at least 80 percent of States, certification of 45 percent of international aerodromes, and resolution of all outstanding Significant Safety Concerns (SSCs) in 2017.

AFI Week host country Botswana is a prime example of targeted improvement. Minister of Transport and Communications, Mr Kitso Mokaila, said the State had made strides toward improving safety of its airlines and security. In 2013, he explained, under the USOAP, Botswana had two SSCs; the government responded by channeling financial resources to invest in the expansion of four international airports for construction of new terminal buildings, control towers and improvement of runways to accommodate larger aircraft. Other improvements included procurement and installation of new navigational and communication equipment and capacitation of necessary human resources.

In the security area, the AFI SECFAL Plan work programme calls for a minimum 65 percent EI of security oversight systems by 50 percent of AFI States by the end of 2017. As of May, the implementation level had improved from 53 percent in 2015 to almost 57 percent. The Secretary General said, "I wish to call upon AFI States and donor and development partners to support the implementation of the AFI SECFAL Plan through voluntary contributions, in order to consolidate the significant achievements recorded since its inception two years ago."

The Secretary General also stressed the associated need for greater allocation of resources, particularly toward the Human Resources Development Fund for Africa (HRDF). "Under the HRDF, voluntary contributions are being used today to assure the skilled personnel required for future operational efficiency and continuous implementation of ICAO SARPs, and other programme activities in the civil aviation sector," Dr Liu remarked. "This is a very important capacity-building initiative for Africa's civil aviation sector, established at the request of the African Union of Transport Ministers and as a joint collaboration between ICAO and AFCAC [African Civil Aviation Commission] and I would like to encourage support from States, industry partners and other interested parties."

Dr Liu noted that a secondment programme has been established under the HRDF mechanism for serving African civil aviation officers, and plans are underway to establish a professional development programme for young professionals which will assist African States in attracting young women and men to the aviation sector while assisting States in meeting emerging needs. ∎



ICAO Secretary General, Dr Fang Liu (right), presented President and Head of State, H. E. Ian Khama, with an ICAO Council President Certificate of Recognition for Botswana's results achieved during the 2016 ICAO Universal Safety Oversight Audit Programme cycle.

# "The HRDF is a very important capacity-building initiative for Africa's civil aviation sector."



– Dr Fang Liu,
Secretary General, ICAO

# AFI AIR CARGO DEVELOPMENT



On the sidelines of the meeting, Ethiopian Airlines opened a new cargo terminal, the largest in Africa. "With this large and modern terminal, Africa can position itself in the global competitive market," said Mr Tewolde GebreMariam, Ethiopian Airlines Group CEO *(centre right in photo)*. Ethiopia's prime minister, Mr Hailemariam Desalegn, cuts the ribbon (centre).

**EVENT**
Second ICAO Meeting on Air Cargo Development in Africa, 27-29 June 2017, Addis Ababa, Ethiopia

**ORGANIZERS**
ICAO, the World Customs Organization (WCO), and The International Air Cargo Association (TIACA)

**HOST**
Ethiopian Airlines

**PARTICIPANTS**
Nearly 250 policy-makers, air transport regulators, representatives from the aviation industry and other stakeholders representing 21 States, seven international organizations, and industry stakeholders from Africa, Asia-Pacific, the Caribbean, the Middle East, Europe and North America.

**KEY OUTCOME**
■ Roadmap for implementation of the Lomé Declaration and Action Plan.

**Technological innovation, regulatory reform, and investment in infrastructure will be crucial for Africa's growth in the air cargo segment. And the full implementation of the Lomé Declaration of 2014 will drive the air cargo segment growth, said the President of the ICAO Council, Dr Olumuyiwa Benard Aliu, at the Second Meeting on Air Cargo Development in Africa.**

The objective of the Lomé Declaration is to enable the unobstructed flow and rapid release of goods through enhanced trade facilitation and custom clearance frameworks. It urges action for the sustainable development of air cargo in Africa in key areas such as liberalization of market access and air carrier ownership and control; cooperation throughout the cargo supply chain; security and facilitation; funding for infrastructure and intermodal integration; support to remote or peripheral destinations; taxes and user charges; capacity-building for qualified personnel; fleet modernization; and adherence to international instruments.

Dr Aliu noted that progress in support of the Declaration should be achieved through the ratification of the 1999 Convention for the Unification of Certain Rules for International Carriage by Air, to which only 56 percent of African states have adhered, and the realization of the "eTrade for All" initiative of the United Nations Conference on Trade and Development (UNCTAD). He noted that growth in African freight traffic outpaced the global average in 2016 and that cargo capacity offered by carriers in the region surged by more than 20 percent last year.

Ethiopian Airlines Group CEO Mr. Tewolde GebreMariam indicated that air cargo is more important to the socio-economic development of Africa than any other part of the world. He stressed that African countries possess economies which are largely dominated by the export of agricultural and horticultural products, making air cargo an absolutely essential need.

A primary discussion topic was market access liberalization. It was urged that States, supported by relevant stakeholders, should implement the actions identified in the Antananarivo Declaration, adopted in Accra, Ghana, in March 2017 (the "Accra Statement"), with respect to implementation of the Single African Air Transport Market (SAATM) and the Continental Free Trade Area (CFTA), in line with the African Union (AU) Agenda 2063. States should take opportunity of the ICAO Air Services Negotiation (ICAN) event to negotiate and streamline partnerships and enhance market access.

Another major topic was Security and Facilitation, calling for States to support the "MoveAfrica" Initiative of the New Partnership for Africa's Development (NEPAD) for the free movement of peoples, goods and services in Africa, and the development of "soft infrastructure" (such as cross-border transport laws, regulation related to border crossing, and organizational systems and resources). States should also aim to enhance the effectiveness of their aviation security measures by implementing the upcoming ICAO *Global Aviation Security Plan (GASeP)* in addition to the Windhoek Declaration and Targets on Aviation Security and Facilitation for Africa adopted in April 2016.

Emerging areas for action include cooperation on joint activities in support of air cargo connectivity, including development of the Cargo Service Quality Index (CSQI), as well as regulatory frameworks that support the safe, secure, environmentally friendly and economically sustainable development of Remotely Piloted Aircraft Systems (RPAS). ■

# AFRICAN STATES SEEK SUSTAINABLE GROWTH

✈ "Aviation growth is poised to bring substantial socio-economic benefits and sustainable prosperity to your States," Dr Olumuyiwa Benard Aliu, President of the ICAO Council, told a Special Meeting of Economic Community of West African States (ECOWAS). "But to do so we must ensure that you are prepared with facilities and systems to handle the increased flight volumes, safely and efficiently. ICAO would strongly recommend that you also focus a good deal of your attention on the determination of practical solutions and action plans to modernize existing aviation infrastructure for airport and air navigation services."

The ECOWAS special meeting was part of the Second ICAO Meeting on the Sustainable Development of Air Transport in Africa. The event built on the Declaration on the Sustainable Development of Air Transport in Africa (the Antananarivo Declaration), adopted in 2015. Through this strategic document, participants from 34 States, international organizations and aviation stakeholders decided to take action for the sustainable development of air transport in Africa in several key areas including:

- Liberalization of market access and air carrier ownership and control
- Cooperation throughout the air transport value chain
- Consumer protection
- Fair competition
- Security and facilitation
- Funding for infrastructure and intermodal integration
- Support to remote or peripheral destinations
- Taxes and user charges
- Capacity-building for qualified personnel
- Support to the Single African Air Transport Market (SAATM)
- Fleet modernization, and adherence to international instruments.

Dr Aliu said, "West Africa's air transport market has huge and untapped potential." Its air transport market represents only about 17 percent of Africa-wide aviation activity in a sub-region with 31 percent of Africa's entire population. "In order for air transport to play its role as an engine of economic growth in this region, States should liberalize market access in accordance with the Yamoussoukro Decision and in line with the African Union (AU) Agenda 2063," he added, including creation of a Single African Air Transport Market (SAATM), which he called "a low-cost policy measure which can have dramatic economic results."
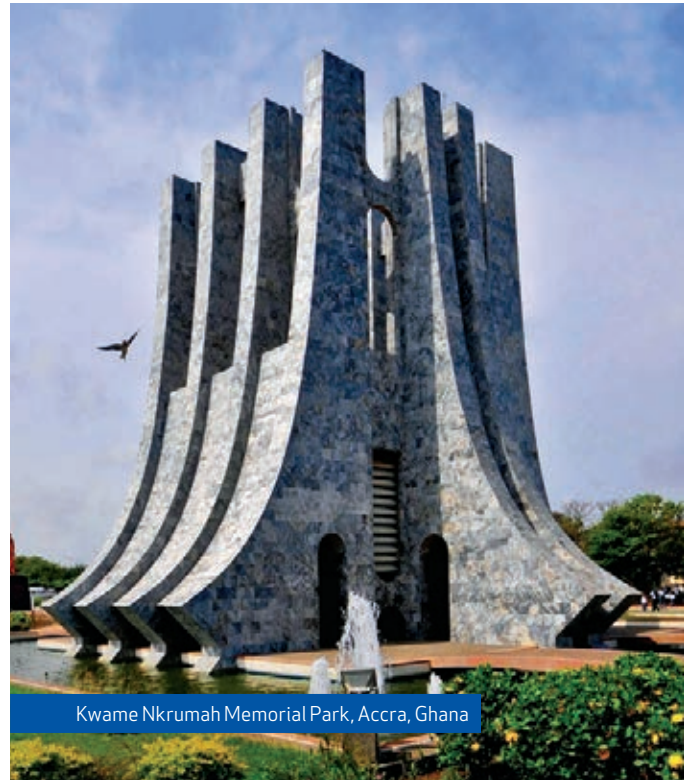


Kwame Nkrumah Memorial Park, Accra, Ghana

**EVENT**
Second ICAO Meeting on the Sustainable Development of Air Transport in Africa, 28-31 March 2017, Accra, Ghana

**ORGANIZERS**
ICAO

**HOST**
Republic of Ghana

**PARTICIPANTS**
37 States and Territories plus 13 Organizations, including policymakers, air transport regulators, representatives from the aviation industry, and other stakeholders.

**KEY OUTCOMES**
- *Statement on the Implementation of the Antananarivo Declaration*
- *Special Meeting of Economic Community of West African States (ECOWAS) Member States*
- *Special Event on Promoting Air Links Between African States and the Diaspora*

## CHALLENGES OF LIBERALIZATION

Dr Paul-Antoine Marie Ganemtore, Head of Air Transport Unit, Infrastructure Department, for the ECOWAS Commission, outlined challenges facing air transport in West African States, including:

- Political unrest, which can result in damaged airport infrastructure and facilities
- Protectionist attitudes of some States affecting granting of air traffic rights
- Insufficient connectivity between capital cities of Member States
- Poor cooperation between ECOWAS air carriers with respect to flight schedules, interline agreements, joint ventures, and alliances
- Poor cooperation among air navigation service providers (ANSPs)
- Inadequate infrastructure, equipment and facilities
- Deficiencies on Aviation Security and Safety identified in member States by ICAO Audits (apart from some success stories)
- Inadequate skilled manpower and capacity
- High operating costs, including aviation taxes and fees, fuel, insurance, maintenance, and training of personnel
- Poor access to financing

Dr Ganemtore said a main objective of ECOWAS is to create a legal foundation for a Community Air Transport Market in West Africa which will guarantee a competitive market and enabling environment for airlines, ensure quality services, provide high aviation security standards, foster more transparent fares, facilitate implementation of Public Service Obligations (PSO), and protect passengers' rights. He recommended a study on the creation of a regional airline, a regional aircraft maintenance facility, and a regional aircraft leasing company.

Mr Simon Allotey, Director-General of the Ghana Civil Aviation Authority (GCAA), advocated "a concerted effort by all aviation Industry players to solicit buy-in from several African states who have not signed the Solemn Commitment to a Single African Air Transport Market," the flagship project of the African Union Agenda 2063.

Mr Allotey has served on the ICAO Council and ICAO's Air Navigation Commission (ANC) and is currently the Chairman of the RASG-AFI (Regional Aviation Safety Group for the African - Indian Ocean Region). He called for "removal of non-physical barriers to sustainable air transport such as protectionist policies and unfair competition rules"; as well as improving compliance with ICAO

Safety and Security Standards and Recommended Practices (SARPs); increasing intra-African air connectivity; and removal of excessive fees, charges and taxes such as fuel taxes and passenger levies.

Passenger charges, for example, typically range US$40-120 at several stations, compared to the global average of about $25, putting African aviation at a huge competitive disadvantage.

As an example to emulate, Mr Allotey pointed to the European Union (EU) market, "which is almost fully deregulated. Carriers from within the EU are free to operate any route within the EU without restriction, to include cabotage. All restrictions on airline ownership have been removed. And the EU also negotiates open skies bilateral agreements as a block."

"The agreement of a more liberal air market between South Africa and Kenya in the early 2000s led to a 69 percent rise in passenger traffic. This is a practical experience of how liberalizing has improved the growth of air services demand," said Mr Tunde Oyekola, CEO of El-Mansur Atelier Group, an Architecture, Engineering and Construction company based in Nigeria. He is also Chair of the Airports Council International World Business Partners Advisory Board.

Mr Oyekola also noted that a study by Intervistas, consulting for the International Air Transport Association (IATA), shows the impacts of liberalizing the air market between 12 countries in the four sub regions of Africa – total traffic flows between the countries were projected to increase by 81 percent, which

Mr Allotey called for "removal of non-physical barriers to sustainable air transport such as protectionist policies and unfair competition rules."

– Mr Simon Allotey,
Director-General of the Ghana Civil Aviation Authority

represents several million passengers who could currently travel by air but are unable to do so for reasons of cost, flight availability, or convenience.

Mr James Andrianalisoa, Director-General, Aviation Civile de Madagascar (ACM) and Chair of the First ICAO Meeting on Sustainable Development of Air Transport in Africa two years ago, reminded: "Let's remember the Yamoussoukro Decisions [which basically require a more liberalized airspace and an air transport single market in Africa] were taken in March 1999; that was almost 18 years ago! There is definitely an urgent need to speed up the pace of change to satisfy both the political vision and agenda and the air transport industry requests."

"Travellers will only patronize African airlines if safety standards are up to global standards," said Dr Elijah Chingosho, African Airlines Association (AFRAA) Secretary General. He noted safety standards have increased significantly in the past few years, and in 2016 there were no safety-related fatal airline accidents in Africa. "The improved safety standards show that the efforts by various stakeholders to enhance a safety culture are yielding positive results. These efforts need to continue to be enhanced."

Dr Chingosho said there is need for competitive financing for restructuring African airlines and consolidation. "The African airline industry is highly fragmented, with average airline fleet size of about 6-12 aircraft. Such airlines lack economies of scale and resources to ensure adequate market coverage and good connectivity for its customers. The creation of a Single African Air Transport Market will facilitate consolidation."

He also lauded the new African passport, launched last year by the African Union. The African Union's Agenda 2063 laid out the goal of free movement of persons in the continent "with seamless borders" and set a near-term target of 2018 for "the abolishment of visa requirements for all African citizens in all African countries."

Mr Frederic Malaud, Air Transport Development Manager in ICAO's Air Transport Bureau (ATB), outlined the rationale for State Air Transport Action Plan System (SATAPS), which support States by monitoring progress towards implementation, identifying priority areas for action, and exchanging information on challenges and best practices pertinent to the implementation of 2015 Antananarivo Declaration and the 2014 ICAO *Declaration on the Development of Air Cargo in Africa* adopted in Lomé, Togo.

Preliminary feedback from SATAPS, based on participation of eight States, reflects support for liberalization of market access, air cargo and air carrier ownership and control; for ICAO's core principles on consumer protection, and for cooperation between authorities and between air transport operators; approval of alliances and codeshare agreements. There is also support for ICAO policies on taxation and user charges (Docs 8632 and 9082) but concern with the creation of levies on passengers having the nature of taxes. Progress is reflected in areas of safety, including implementation of Safety Management Systems (SMS).

## CONNECTING WITH THE DIASPORA

Under the Chairmanship of Mr Simon Allotey, a special meeting was held on promoting tourism and air links between African States and the Diaspora, especially in the Caribbean States. Based on the African Union's "Declaration of the Global African Diaspora Summit," signed in Johannesburg, South Africa, in 2012, participants recognized aviation as a key driver for development, and identified priorities for the development of air links, tourism, trade and investments.

Among the conclusions of the special meeting, participants stressed the need to facilitate the exchange of air traffic rights, revise existing bilateral air service agreements and explore opportunities for multilateral agreements, including through the ICAO Air Services Negotiation (ICAN) facility. It was decided that a dedicated coordination group, formed of African Union Commission, Caribbean Community (CARICOM) and ICAO experts, should develop a model air services agreement. ■

## RESOURCES



Antananarivo Declaration on the Sustainable Development of Air Transport in Africa https://www.icao.int/sustainability/Documents/Declarations%20and%20Statements/Final.Madagascar.Declaration.EN.Rev.pdf

# PROGRESS REPORT ON THE NEW RSOO STRATEGY



**DANIELA DEFOSSAR**
*Senior Strategy Development Officer for EASA*

> "Discussions are underway how the European Aviation Safety Plan produced by EASA could form a basis for the ICAO Regional Safety Plan."

There is a need for safety oversight to meet the challenges posed by growing air traffic as well as changing aircraft ownership, registration and user business models.

The Forum on Regional Safety Oversight Organizations (RSOOs) for Global Aviation Safety, organized by ICAO and EASA in Swaziland in March, agreed on the need to complement the current prevailing concept of national and regional-based safety oversight systems with a globally based system that would be composed of a range of safety oversight providers. RSOOs will be recognized as an integral part of a global aviation safety oversight system led by ICAO, within the framework of the Global Aviation Safety Plan (GASP), and maintaining the States' obligation and responsibility for safety oversight under the Convention on International Civil Aviation.

Discussions at the Forum focused on potential solutions to many of the challenges faced by RSOOs, foremost the need to ensure sustainable funding and adequate empowerment with respect to the tasks and functions they carry out for their members. Improving the performance of RSOOs also entails strengthening cooperation and information sharing. For this reason, it was proposed to establish an RSOO Cooperative Platform, coordinated by ICAO, to facilitate inter-RSOO communication and to become an information hub and competence centre through exchange of information and sharing of best practices.

The Cooperative Platform could support ICAO to carry out these tasks related to RSOO functions:

- Analyzing ICAO proposals from an RSOO point of view;
- Supporting the development of safety promotional or ICAO implementation material;
- Organizing regional technical workshops or events;
- Drafting model manuals or checklists;
- Coordinating relevant activities such as training, technical assistance, pooling of experts;
- Participating in and commenting on RSOO studies;
- Finding solutions to issues of common interest, e.g. sustainability of funding;
- Assisting ICAO in related provisions development and global programme implementation; and
- Organizing future RSOO events to support the development of RSOOs.

ICAO has initiated several actions to implement its new RSOO strategy. First, an evaluation of RSOOs. A questionnaire was sent to 16 RSOOs to collect information on their scope, governance, funding, and activities.

Second, ICAO has initiated a study on the proposed *Global Aviation Safety Oversight System (GASOS),* supported by an expert group to advise on an enhanced system which would include some form of recognition and oversight of RSOOs and service providers. ICAO will report on initial results during the Safety and Air Navigation Implementation Symposium (SANIS) in December.

Third, a first meeting of the RSOO Cooperative Platform is planned before year end. Fourth, ICAO is developing guidance and a mechanism to share safety inspector resources that will dovetail with the RSOO strategy.

### THE EUROPEAN RSOO MODEL

Perhaps you are wondering about the benefits of an RSOO compared to the default system in which each State takes care of its own ICAO responsibilities independently?

Let's look at our example: EASA is the RSOO for Europe. It has existed since 2003 and has 32 European Member States. Its main tasks are regulations development, type certification of aircraft and products, approval of certain aviation organizations, oversight of a standardized implementation of the common rules in its Member States, technical assistance, international cooperation and training activities. EASA's responsibilities grew over time, starting with airworthiness, adding air operations and aircrew after five years and Air Traffic Management (ATM) / Air Navigation Services (ANS) and aerodromes after another three years.

In some of these areas, EASA has an exclusive competence – for example, the type certification of aircraft. This means an aircraft is only certified once by EASA instead of 32 authorities and the type certificate is recognized in all Member States without any additional conditions. This is a great efficiency gain – not only for the national authorities but also manufacturers which have a one-stop shop for all design related and type certification issues.

In other areas, EASA has a shared competence with its Member States. For example, EASA prepares common rules in the area of air operations. The issuance of Air Operator Certificates (AOCs) and oversight of operators remains, however, the competence of Member States; EASA monitors how the States exercise this responsibility. This division of tasks allows for proximity where it is useful and centralization of activities which are better addressed at a central level. At the same time, there is a control and support mechanism in place to ensure same or similar application of the common rules.

EASA and Member States support each other in their activities. Member States are involved in the Agency's activities and consulted on key documents. EASA is supporting its Member States, for example, by providing implementation support, conducting safety analysis, and coordinating research.

Some practical examples of cooperation in the areas of training and flight operations include:
- Sharing of experts for certain tasks, e.g. EASA uses national authority experts to carry out the certification of flight simulators on behalf of EASA;
- EASA facilitating the pooling of inspectors so that flight operations inspectors type-rated on a certain aircraft may assist other authorities which don't have such qualified inspectors yet.

EASA is also supporting the decision-making bodies (notably the European Commission and the Member States). For example, in the ATM area, with the implementation of the ICAO *Global Air Navigation Plan (GANP)*[1], in line with the Aviation System Block Upgrades (ASBUs). This support assists them in taking the correct decisions for implementing the necessary operational and technology improvements, as stipulated in the European ATM Master Plan.

Such decisions shall be based on cost benefit and safety analysis, ensuring a harmonized and synchronized deployment that maximizes the benefits. Support to the operational and industrial stakeholders includes the development (or facilitating the development) of implementation material (e.g. industry specifications, guidance material, implementation guidelines and regulations as required). This increases the efficiency of implementation through regionally agreed common requirements.

EASA is also reaching out to the ICAO Regional Office for Europe, and discussions are underway on how the European Aviation Safety Plan produced by EASA could form a basis for the ICAO Regional Safety Plan and how this joint approach could help Member States to elaborate and establish their State Safety Plans.

Similar collaboration is naturally established with industry and other relevant professional organisations. EASA is one RSOO model, benefitting in particular from the European integration process. The EASA model may not fit all regions and there are certainly RSOOs in other regions which bring great value to their Member States by applying a different approach and exercising different competencies.

With this experience, EASA is supporting ICAO in the implementation of the Global Strategy and Action Plan for RSOOs. EASA is providing resources to ICAO and supporting the set-up of the RSOO Cooperative Platform. With this Platform bringing RSOOs together to exchange best practices, share information and collaborate on common work, EASA is keen to share its experience, to learn from others and to see other RSOOs growing in a similar way, adapted to their region. EASA is also supporting RSOOs worldwide through technical assistance projects.

In line with the ICAO strategy, EASA is convinced that regional cooperation is an appropriate and beneficial mechanism to act on today's challenges so that we all can assure a safe aviation system. ■

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[1] In Europe, the ATM Master Plan is the projection of the GANP.

# CORSIA UPDATE:
## STAYING ON TRACK WITH AVIATION'S GLOBAL EMISSIONS OFFSETTING PROGRAMME

**CORSIA is on track. As of early September, 72 States representing nearly 90 percent of international aviation activities have agreed to voluntarily join the Carbon Offsetting and Reduction Scheme for International Aviation. That figure would likely increase as more States volunteer to participate. The most recent volunteers are Botswana, Jamaica and Nigeria.**

During IATA's 2017 Annual General Meeting, ICAO Council President Dr Olumuyiwa Benard Aliu told delegates, "We should dispel any concerns that any recent developments on the Paris Agreement will negatively impact our shared planning for effective and globally aligned aviation emissions mitigation."

IATA member airlines, including US carriers, reaffirmed their commitment to CORSIA and are also urging governments to help accelerate the Sustainable Alternative Jet Fuels (SAF) programme, which would help support the CORSIA initiatives.

In September, the Steering Group meeting of ICAO Council's Committee on Aviation Environmental Protection (CAEP) agreed on draft Standards and Recommended Practices (SARPs) for CORSIA. The CAEP also defined draft rules, guidance and an ICAO tool for a robust Monitoring, Reporting and Verification (MRV) system of $CO_2$ emissions from international aviation, as recommendation to the ICAO Council. The CORSIA SARPs will eventually constitute a new Volume 4 of Annex 16 to the Chicago Convention.

The proposed SARPs will follow the usual ICAO review and approval process, and "all States will be consulted and provide views; Council will then take the final consideration," said Ms Jane Hupe, Deputy Director, Environment, in ICAO's Air Transport Bureau (ATB) and Secretary of the CAEP. "We expect to have the SARPs adopted by mid next year." (see timeline below)

At an ICAO Seminar on CORSIA, Secretary General Dr Fang Liu also noted, "It is important not to forget the significance of the ICAO State Action Plans programme. State Action Plans provide a very useful a platform from which to engage stakeholders and enable climate measure data collection. This represents a practical foundation from which to pursue CORSIA-related needs such as MRV implementation." To date, 104 States have voluntarily submitted their action plans to reduce aviation $CO_2$ emissions.

To help assist States in implementing CORSIA, ICAO will:
- Develop training kits, brochures, practical guidelines, manuals
- Conduct webinars, use regional conferences and DGCA meetings for outreach
- Coordinate and build upon the State Action Plan initiative to provide capacity building for CORSIA implementation by States such as on MRV.

**A full CORSIA tutorial is available online:** https://www.icao.int/environmental-protection/Pages/Online-CORSIA-Tutorial.aspx ■

## CORSIA TIMELINE

An overview of key milestones in the coming months for CORSIA SARPs and Guidance development.

CORSIA will be implemented in phases, starting with participation of States on a voluntary basis, followed by participation of all States (except the exempted States):

- Pilot phase (2021-23) and first phase (2024-26) would apply to States that have volunteered to participate in the scheme;

- Second phase (2027-35) would apply to all States that have an individual share of international aviation activities in RTKs in year 2018 above 0.5 per cent of total RTKs or whose cumulative share in the list of States from the highest to the lowest amount of RTKs reaches 90 percent of total RTKs, except Least Developed Countries (LDCs), Small Island Developing States (SIDS) and Landlocked Developing Countries (LLDCs), unless they volunteer to participate in this phase.

| 2017 | | 2018 | | 2019 | |
|---|---|---|---|---|---|
| Oct-Nov | Preliminary review of draft CORSIA SARPs and Guidance by ICAO Council and other ICAO bodies | Feb | ICAO Seminar on Carbon Markets<br><br>Deadline to receive responses to State Letter from Member States | Jan | CORSIA SARPs Applicable<br><br>MRV Starts |
| Nov | State Letter on proposed CORSIA SARPs | Mar-Apr | Additional CORSIA Regional Seminars | | |
| | | May | Final review of draft CORSIA SARPs | | |
| | | Jun | Adoption of CORSIA SARPs by ICAO Council<br><br>Final State Letter on adoption of CORSIA SARPs | | |
| | | Sep | Deadline for States to approve/disapprove CORSIA SARPs | | |
| | | Nov | Deadline for States to file differences to CORSIA SARPs | | |

# BALANCING NATURE & SECURITY: WILDLIFE & BIRD STRIKE HAZARDS

**When it's bird versus airplane, both lose. The energy released when a 3 kg (6.6 lb) bird is hit by an aircraft traveling 150 mph equals the energy released by dropping a 47 lb object from 100 feet. The results can be devastating.**

Just ask Mr Jeff Skiles, First Officer of USAirways Flight 1549, the famed "Miracle on the Hudson" in which Mr Skiles' captain, Chesley "Sully" Sullenberger, landed their Airbus A320-214 in the middle of the Hudson River after birds struck both CFM56-5B4/P turbofan engines shortly after takeoff from LaGuardia Airport in New York City. Mr Skiles was a keynote speaker at the inaugural ACI-ICAO Wildlife Strike Hazard Reduction Symposium.

Mr Skiles' speech put Symposium participants in a virtual jump seat as he described how he saw a flock of birds, languidly flapping their wings, already too close to avoid. A split-second later, the birds impacted the plane. Mr Skiles compared the feeling to flying through a hailstorm. Before Mr Skiles could begin to assess the damage, both engines failed. The flight was at minimum speed and he said he felt the aircraft sag in the air. Sully immediately took control, calling out "my aircraft," while they ran through the checklist to assess and troubleshoot.

Ms Angela Gittens, Director-General of Airports Council International (ACI), told delegates, "Wildlife strikes affect airports, small and large, in all regions of the world. It is both a risk to aviation safety and a financial burden. We are committed to working with ICAO, regulators, and the rest of the industry to reduce hazards from wildlife strikes – a critical element in improving aviation safety."

Mr Rob van Eekeren, President of the World Birdstrike Association, warned that in the next 20 years, not only will air traffic increase, so will the increased risk of bird strikes as the avian population increases, alters migration patterns, becomes more dependent on human food sources, and settles near urban areas… and airports. If policies are not changed, Mr van Eekeren predicted, "The risk to passengers will increase considerably."

Mr Yong Wang, Chief, Airport Operations and Infrastructure for ICAO's Air Navigation Bureau (ANB), outlined some of findings from recent updates to the ICAO wildlife strikes analysis database, known as IBIS:

- 89 percent occurred on or near the aerodrome
- The overwhelming majority of strikes occurred when the aircraft was below 1,000 feet – 28 percent occurred during the take-off run or climb; 61 percent during the approach or landing roll

- 68 percent occurred during the day (when birds are most active); 25 percent at night

About one-third of bird strikes against aircraft are from perching and shore birds. Fewer than 10 percent are hawks, eagles, and vultures, and only 2 percent ducks, geese, and swans. Three percent are mammals – deer, moose, bears, wolves.

The vast majority of reported strikes are in North America and Europe, nearly 70,000 of the approximately 100,000 reported by 91 States. "Of the wildlife strikes for which the damage was coded (33,376 strikes), 17 aircraft were destroyed, 600 strikes caused substantial damage to the aircraft, and 1,874 strikes caused minor damage," Mr Wang noted. Wildlife strikes represent 3.6 percent of all aviation accidents.

"Wildlife strikes can cause accidents and serious incidents, costing the aviation industry billions in losses due to aircraft damage, flight delays and other operational impacts," commented Mr Stephen Creamer, Director of the ANB. "All aviation stakeholders need to work together to formulate a global strategy to address these hazards."

Mr Creamer advocated long-term efforts to tackle the challenge of wildlife strikes globally, including strengthening regulatory requirements. "States need to have appropriate legislation and regulation to address the safety concerns, including those related to land use around an aerodrome," he said.

Wildlife strike hazards should be assessed through a national procedure for recording and reporting wildlife strikes to aircraft, the collection of information on the presence of wildlife constituting a potential hazard, and an ongoing evaluation of the hazard by competent personnel, Mr Creamer explained.

## HABITAT RESEARCH, DOGS, AND RADAR

Multiple speakers described various low- and high-tech approaches to mitigating the risk from birds and other wildlife.

Dr Travis Devault, Project Leader for the US Department of Agriculture National Wildlife Research Center, Sandusky, Ohio, encouraged research into habitat use and foraging strategies of hazardous wildlife, which could be used to develop non-lethal methods and tools to reduce wildlife food, water, and cover attractants. He suggested using geographic information systems (GIS) to explore the effects of landscape structures, analyzing landscape patterns and interactions which influence the occurrence of bird strikes.

Some airports are using satellite tracking of hazardous birds. Others are identifying alternative land covers on or near airports, such as non-herbaceous ground covers or solar arrays, as well as development of aircraft lighting techniques and acoustic devices which use sound to disperse wildlife.

Ms Melissa Hoffmann, Senior Wildlife Officer for Airports Company South Africa, described how her team uses dogs to scare birds away from strike danger zones. The dogs are trained as puppies and taught not to wander too close to runways. Breeds include Springer Spaniels, which help to flush birds out of dense tall grass areas and can even sniff out nests and eggs.

Ms Tanya Drapeau, Site Manager, Avisure Pty Ltd., said at Vancouver International Airport in British Columbia, wildlife harassment techniques include pyrotechnics, Australian-style "stock whips," visual deterrents such as lasers and spotlights to direct wildlife away from danger zones into safer areas, and trained predators such as border collies and falcons.

Mr David Bradbeer, Wildlife Program Specialist, Airside Operations, for Vancouver airport, advised:
1. Identify the hazardous species on your aerodrome
2. Determine the habitats used by hazardous wildlife and why. Is the runway a habitat, appealing to reptiles seeking warmth? Is there water nearby that could be an attraction to birds? What is the wildlife in the vicinity eating, and is that prey nearby?
3. Manage the habitat by reducing the number of attractants in the area.

Mr Nico Voorbach, Director, ICAO and Industry Affairs, Civil Air Navigation Services Organisation (CANSO), said air navigation service providers (ANSPs) can look at changing routes of aircraft, changing Standard Instrument Departure (SIDs) and Standard Terminal Arrival Route (STARs), and changing runways.

Captain Ron Abel, President of the International Federation of Air Line Pilots' Associations (IFALPA), said, in addition to wildlife strike reports, flight crews can offer operational insight to local Runway Safety Teams.

Pratt & Whitney accident and incident investigator Mr Chris Demers explained how both engine design and regulation have

"All aviation stakeholders need to work together to formulate a global strategy to address these hazards."

– Mr Stephen Creamer,
Director, ICAO Air Navigation Bureau.

evolved as we gain more knowledge about the threat of bird ingestion. Examples of turbofan engine design improvements include shroudless fan airfoils, automatic surge recovery and automatic restart logic, improved compressor vane retention designs, optimized rain / hail / FOD [foreign object damage] core rejection geometry, and reduced fan rotor speeds.

Mr Steve Osmek, Manager, Airport Biologist for Seattle-Tacoma (Washington) Airport, addressed avian radar: "It's easier to predict where wildlife strikes will happen, versus how they will happen. That's where the avian radar and FOD sensors come into play. The radar can help identify wildlife hot spots, allowing aircraft to slow down or take appropriate measures before a strike occurs."

Dr Edwin Herricks, Professor Emeritus at the University of Illinois Center of Excellence for Airport Technology, declared, "At this point in time, technology will not stop wildlife / aircraft collisions – it is not a silver bullet." He added, "There is an unfortunate mismatch between expectations of what the technology will do and what the technology can actually do (particularly at low cost)."

Dr Herricks explained, "No single sensor type or design is available to meet local to regional scale requirements for wildlife management, but multiple sensors can be integrated, even fused, to provide a comprehensive picture of wildlife activity. Integration / fusion of multiple sensors is the future."

He noted that unmanned aerial system (UAS) technologies can benefit wildlife management, whether by flying cameras or harassing wildlife. "We can expect significant improvement in bird radars because birds and drones present similar detection problems."

### ONE AIRPORT AT A TIME
Mr Gilberto Lopez-Meyer, Senior Vice President, Safety and Flight Operations, at the International Air Transport Association (IATA), described one success story at Pulkovo Airport, Saint Petersburg, Russia. In 2011, the airport experienced a high number of bird strikes. A Wildlife Coordinating Committee was established with representatives from the airport, airlines, ANSPs, and IATA; they commissioned a study which highlighted a local garbage dump nearby. "A package of safety measures was implemented," said Mr Lopez-Meyer, "including working with the local garbage dump, training of personnel, and the introduction of falcons to keep the other birds away."



The "Robird," a drone which mimics the flight of a falcon, will be integrated into the Edmonton, Canada airport's wildlife management programme. Developed by Clear Flight Solutions and Aerium Analytics, Robird will help guide birds safely away from air traffic while discouraging nesting near airside operations and glide paths.

Within three years, the number of bird strikes was significantly reduced and the safety level was recognized as acceptable.

"There is no one-size-fits-all solution," cautioned Mr Creamer. "Wildlife around the world varies significantly, and the wildlife control programme at each airport will be different." He said it is essential to apply Safety Management System (SMS) thinking. "Control measures must be weighed and evaluated against requirements, and should lead to the production of a Wildlife Hazard Management Plan for the airport, including training of personnel to manage an effective wildlife control programme." ∎

"Wildlife strikes affect airports, small and large, in all regions of the world. It is both a risk to aviation safety and a financial burden."

– Ms Angela Gittens, Director-General of Airports Council International (ACI).

# RESOURCES FOR WILDLIFE STRIKE HAZARD REDUCTION



*ICAO Airport Services Manual (Doc 9137), Part 3 – Wildlife Control and Reduction* includes comprehensive guidance on the fundamental elements of an airport bird / wildlife strike control programme, including: assignment of personnel; a process to collect and analyze data, using a risk assessment methodology; a process of habit and land management and to expel or remove hazardous birds / wildlife; and a process to liaise with non-airport agencies and local land owners.

Ongoing Work at ICAO includes updated guidance in Doc 9137, Part 3, and a dedicated chapter in Doc 9981, PANS-Aerodromes.

*For details on the 2008-2015 wildlife strike analyses* (IBIS), ICAO EB 2017/25 is available at www.icao.int/IBIS.

*To better facilitate occurrence reporting and data analysis*, ICAO has replaced the IBIS computer application with a new reporting system based on the European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS) platform. A User Manual and Software Installation Manual can be downloaded at www.icao.int/IBIS. States are encouraged to submit wildlife strike reports either via ECCAIRS e5f/e4f files, or via an ECCAIRS Excel-based form that can also be downloaded at www.icao.int/IBIS.

*ACI Wildlife Hazard Management Course* - http://www.aci.aero/Global-Training/Training-Information/Course-Categories/Safety/Wildlife-Hazard-Management

*World Birdstrike Association* - http://worldbirdstrike.com.

# A WILDLIFE MANAGEMENT PROCESS



Mr Michel Glorieux, Wildlife Manager, Aeroport de Genève, Switzerland, outlined a step-by step process for an Aerodrome Wildlife Hazard Management Plan:

1.  Assess perimeter of responsibility of airport.

2.  Organize the wildlife hazard prevention; appoint wildlife hazard manager.

3.  Identify your environment – identify what your airport is like, the natural and anthropic media, and the biological value of the natural media.

4.  Identify the inhabitants near your aerodrome by consulting wildlife databases, perform the wildlife diagnostics for your surroundings.

5.  Take passive measures and develop the plan for changes to the airport environment to define preventive measures in terms of priority, identifying frequency and equipment to be used.

6.  Identify active measures. Define the intervention procedures and methodologies. Develop the active prevention schedule.

7.  Develop the data collection and statistical analysis programme. Organize the data collection and process it. Publish your statistics.

8.  Assess risk. Define the indicative level of the wildlife strike risk at the airport for the perimeter of responsibility.

9.  Establish the training plan for those responsible for wildlife hazard prevention.

10. Develop your wildlife control programme. Draft the complete document, embodying the concept, including risk analyses, procedures and the management of airport media plan.

# COMPETENCY-BASED TRAINING & ASSESSMENT
## THE FUTURE OF ICAO PANS TRAINING

✈ **To address the challenges and needs of today's aviation industry, a competency-based approach is the way forward for training and assessment. Competencies are not about what people do in their job (i.e. tasks) but about how they do their job while carrying out tasks in specific contexts.**

ICAO introduced provisions for the first ICAO competency-based license, the MPL (Multi-crew Pilot Licence) in 2006. Ab-initio training programmes which lead to an MPL are focused on developing competencies for co-pilots in commercial operations. The focus of the training is on achieving the competencies necessary to perform as a multi-crew environment, rather than meeting specific hour requirements. MPL training programmes rely on crew resource management (CRM) and threat and error management (TEM) as foundations. To support the implementation of the MPL, ICAO published the first edition of Doc 9868, *Procedures for Air Navigation Services – Training* (PANS-TRG).

In 2013, ICAO introduced evidence-based training (EBT) as an alternative to recurrent pilot training in flight simulation training devices (FSTDs). EBT adopts a competency-based approach to training and assessment and focuses on ensuring that pilots have the necessary skills to deal with unforeseen events.

ICAO has developed competency-based approaches for other aviation professionals, including aircraft maintenance personnel, air traffic controllers, air traffic safety electronics personnel, flight procedure designers, flight validation pilots, cabin crew members, designated medical examiners, dangerous goods personnel, and civil aviation safety inspectors.

Much has been learned about competency-related concepts that support the implementation of training programmes, since the introduction of the ICAO MPL provisions. To address lessons learned, ICAO called upon subject matter experts to assist in the development of Amendment 5 to the PANS-TRG document that redefines competencies, provides clarification of terms and concepts related to competencies, and presents a methodology to design competency-based training programmes. Amendment 5 establishes a baseline for all ICAO provisions related to competency-based training and assessment. ICAO consulted widely with Member States and international organizations regarding the proposed changes in Amendment 5 to PANS-TRG and the amendment was subsequently approved in June 2017 with an applicability date of 5 November 2020.

The ICAO Competency-based Training and Assessment Task Force (CBTA-TF) was established in early 2017 to review competency-related provisions for pilots, aircraft maintenance personnel, flight

dispatchers, air traffic controllers, and air traffic safety electronics personnel. The Task Force is working to align provisions, including several existing ICAO manuals, with the recent changes made to PANS-TRG. The CBTA-TF held its first meeting in March and will continue its work until 2020. The Task Force will address these issues:

- Consideration of pilot training specifications to increase credits for FSTD training. MPL provisions in Annex 1 – Personnel Licensing and PANS-TRG will be updated, as will the EBT and upset prevention and recovery training (UPRT) provisions in PANS-TRG. An ICAO competency framework will be developed for aeroplane pilots applicable for the private pilot licence, MPL, commercial pilot licence, instrument rating, and recurrent training.
- An ICAO Competency Framework for aircraft maintenance engineers (AMEs).
- An ICAO Competency Framework for flight dispatchers/flight operations officers (FD/FOOs). A new ICAO manual will be developed to support the implementation of competency-based training and assessment for FD/FOOs.
- PANS-TRG provisions for air traffic controllers and air traffic safety electronics personnel will be updated to fully align with the changes made in Amendment 5. An ICAO Competency Framework and associated provisions for on-the-job training instructors for air traffic control will also be developed.



The first graduates of the AirAsia-CAE MPL programme are now flying as Captains.

Beyond the aviation disciplines that the CBTA-TF will address, subsequent work will be undertaken regarding competency-based training and assessment for flight procedure designers, flight validation pilots, cabin crew members, designated medical examiners, and dangerous goods personnel. Work is currently underway for personnel involved in aeronautical information management.

Ultimately, the work conducted by ICAO will facilitate the effective implementation of competency-based training and assessment in all aviation disciplines. ■

- Capt Miguel Marin,
Acting Chief, Operational Safety Section, ICAO

# ACCIDENT SURVIVAL 101: PASSENGERS' NEED TO KNOW

**MARTIN MAURINO**
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**Accident investigations have shown that deficiencies and inaccuracies in safety information briefings, signs, placards and markings can negatively impact passenger survival rates. Well-informed, knowledgeable passengers have a better chance of surviving a life-threatening situation that may occur on board an aircraft.**

**ICAO's new *Manual on Information and Instructions for Passenger Safety* (Doc 10086), developed by the ICAO Cabin Safety Group (ICSG), provides guidance material to ensure the necessary safety-related information and instructions are provided to passengers to enhance their chances of survival in the event of an accident.**

Survivability in an aircraft accident is dependent on multiple factors. Certification standards for crashworthiness and ditching are designed to enhance passenger survivability by maintaining the integrity of the aircraft's structure and providing access to emergency exits so that occupants can escape. Cabin crew evacuation procedures further improve survivability, by enabling crew members to direct passengers and assist them in quickly leaving the aircraft. Passengers' survival rates are improved when they are informed about the correct use of equipment, such as seatbelts, and the actions they should take in the event of an emergency, such as how to adopt the "brace-for-impact" position.

This life-saving information is relayed to passengers via passenger safety briefing cards, videos, signs, placards, emergency lighting systems and verbal briefings. ICAO provisions in Annex 6 - *Operation of Aircraft, Part I - International Commercial Air Transport - Aeroplanes* cover the safety-related information and instructions that an operator should provide to passengers. The goal of these provisions is to require operators to communicate specific, accurate information and instructions to passengers, to facilitate understanding.

## What do passengers need to know to increase their chances of survival?

To improve passengers' safety and enhance their reaction and survival in the event of an emergency, operators are required to provide the necessary information to passengers. A means of doing this is the pre-flight safety demonstration. The safety demonstration is conducted by cabin crew or it may be a video developed by the operator and presented to passengers prior to take-off. This demonstration includes key items that passengers need to know to increase their chances of survival in an accident, such as the use of seat belts, the location of emergency exits, emergency escape path lighting and exit signs, the location and use of oxygen masks and life jackets, as well as how to brace for impact.

In addition, certain passengers may require personalized individual briefings, adapted to their specific needs. These passengers include, but are not limited to persons travelling with infants, unaccompanied children, persons with disabilities, persons with mobility impairments, and persons on stretchers. An individual safety briefing for these passengers should include any information contained in the safety demonstration and the passenger safety briefing card which the passenger would not be able to receive otherwise (for example, if the passenger is visually impaired) and is necessary for the safety of that person during the flight.

### What languages should the cabin crew speak on board?

Information provided via safety briefings, announcements and the safety demonstration should be transmitted in the language of the operator and in English. On international flights, operators should use English, the official language(s) of the State of departure and the State of destination for safety briefings, to cover the largest percentage of possible passengers on board.

### Moving toward pictograms

An effective way to overcome language barriers is the use of pictograms. Pictograms are the recommended media type for signs, markings and placards (versus text content). They can help passengers understand the location of live-saving equipment and provide information on actions to take during an emergency, such as how to open an exit. To promote global harmonization and understanding of information displayed in aircraft cabins, Airbus launched a project to redesign all its placards using only pictograms.

### Who gets to sit at an emergency exit row?

Space is a luxury on board commercial aircraft, particularly in economy-class cabins. Therefore, passengers will often try to obtain a seat in an emergency exit row. Since this row has direct access to an emergency exit, the distance between seats in this row is bigger than other rows.

However, not all passengers should be allowed to sit at an emergency exit row. Exits such as those at the over-wing are referred to as unstaffed exits (or self-help exits). This means that these emergency exits are not assigned to cabin crew members. Passengers are expected to open them in an evacuation. Passengers should meet certain criteria to be eligible to occupy seats located in an emergency exit row. Such criteria are necessary so that a passenger's presence at an emergency exit row does not adversely affect the safety of other occupants during an evacuation, or result in harm to themselves. These criteria include, but are not limited to:

- Being physically capable of operating the emergency exit;
- Capable of understanding the printed and spoken instructions;
- Able to visually determine if the exit is safe to open (e.g. that there is no fire outside); and
- Have sufficient mobility, strength and dexterity to reach, operate and stow, or dispose of, the exit hatch.

In an evacuation, passengers will often panic and rush to exits. It is important to set a minimum age for passengers who can sit at these exits. Infants and small children should be forbidden from occupying these seats as they may be injured by other passengers trying to escape the aircraft.
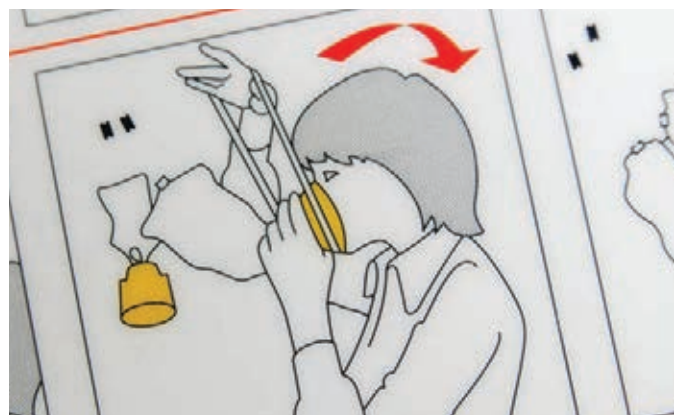


### How to brace for impact?

Occupant survivability is linked to three phases of an accident:

1. Surviving the crash sequence (i.e. the impact forces, consequent deceleration, and secondary impacts)
2. Evacuating the aircraft; and
3. Surviving the post-evacuation environment (e.g. sea, jungle, mountainous region).

Occupants who are seriously injured during the crash sequence may be unable to evacuate and may suffer fatal injuries as a result (e.g. if occupants are unconscious or have a broken leg, and the

Brace positions in forward-facing passenger seats equipped with a lap strap seat belt only (courtesy IBRACE)

aircraft is on fire). To enable the physical evacuation of the aircraft, it is important that passengers take actions to minimize the potential for injuries during the crash sequence.

One action that passengers can take to contribute to their survival is to assume an appropriate "brace-for-impact" position, commonly referred to as the brace position. This is an action where a person pre-positions his/her body against whatever he/she is most likely to be thrown against, and which may significantly reduce injuries sustained.

Since the 1960s, extensive research has been conducted on brace positions, using anthropomorphic dummies in a series of sled-impact tests. The aim of such research is to determine the most beneficial passenger brace position in forward-facing economy type aircraft seats. Research shows a reduction of secondary impact by adopting a brace position.

Although extensive research has been conducted; no single brace position has been determined. There is great variation in passenger characteristics and abilities, in-seat class characteristics, seat pitch, and direction of travel (some seats face forward, others are angled or face rearwards). Results from internationally recognized research studies on the brace positions were used to determine the recommended brace positions presented in Doc 10086. ICAO worked closely with the International Board for Research into Aircraft Crash Evaluation (IBRACE), a group composed of subject matter experts involved in the testing of brace positions, either from an engineering or medical perspective.

The new ICAO manual provides a description of the steps to take to adopt the brace position for a person occupying a forward-facing passenger seat fitted with a lap strap seat belt only. The instructions presented, which explain in simple terms the steps to take, may be used by cabin crew to brief passengers during cabin preparation for an anticipated emergency landing.

## "Leave everything"

Many evacuations have shown a tendency for passengers to attempt to retrieve their belongings in an evacuation – despite cabin crew members repeatedly instructing them to abandon carry-on baggage.

Passengers are unaware of the risks associated with taking their baggage during an evacuation. The consequences could include impeding an orderly and timely evacuation, damaging an evacuation slide, and increasing the risk of injury. As passengers insist on taking their belongings with them, cabin crew are faced with passenger management and crowd control issues in an evacuation. The new ICAO manual contains recommendations to manage carry-on baggage issues in the event of an evacuation. These include changes to the operator's policies and procedures, training for cabin and ground crew, and passenger education. ■
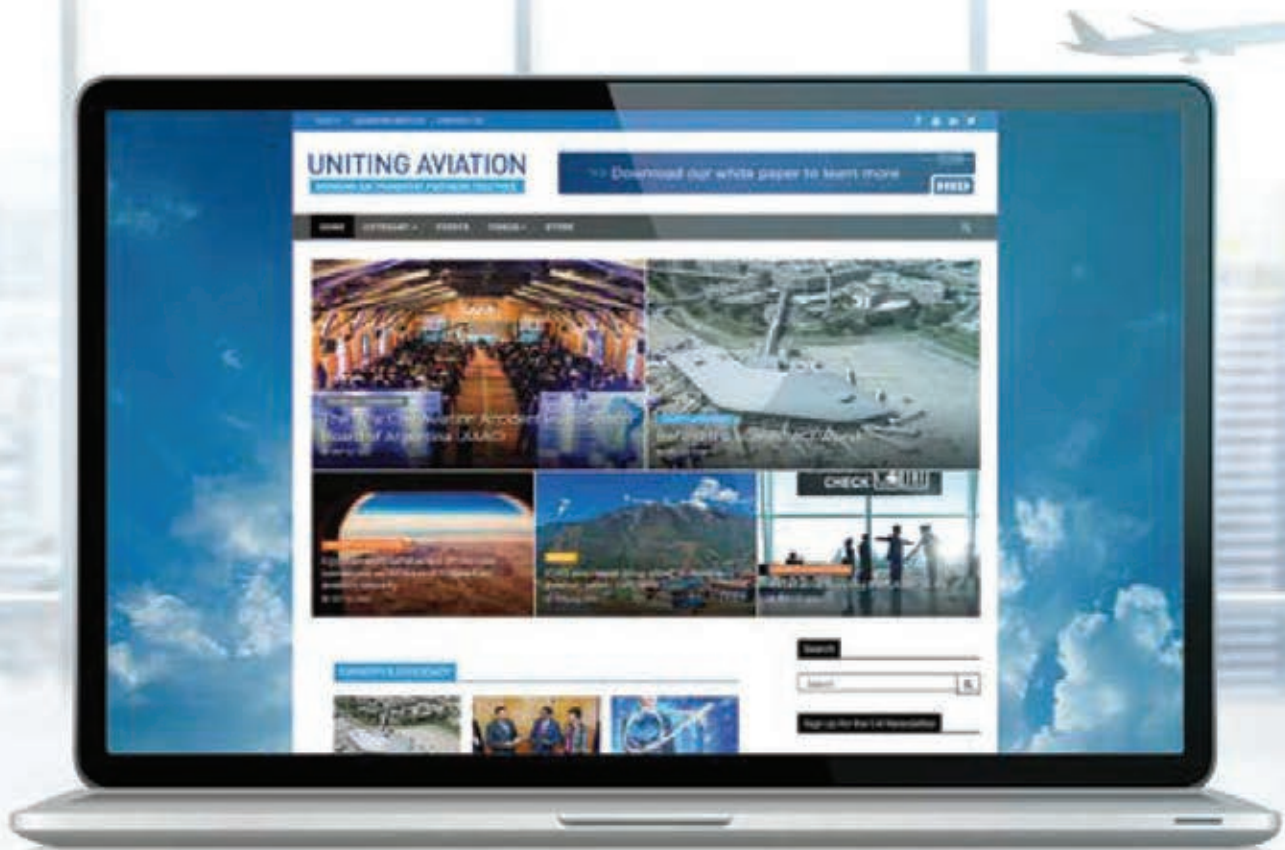
## RESOURCES



The ICAO Manual on Information and Instructions for Passenger Safety (Doc 10086) is now available to States in English on the ICAO-NET at http://portal.icao.int/

Additional information can be obtained from the ICAO Cabin Safety Website, at: www.icao.int/cabinsafety.