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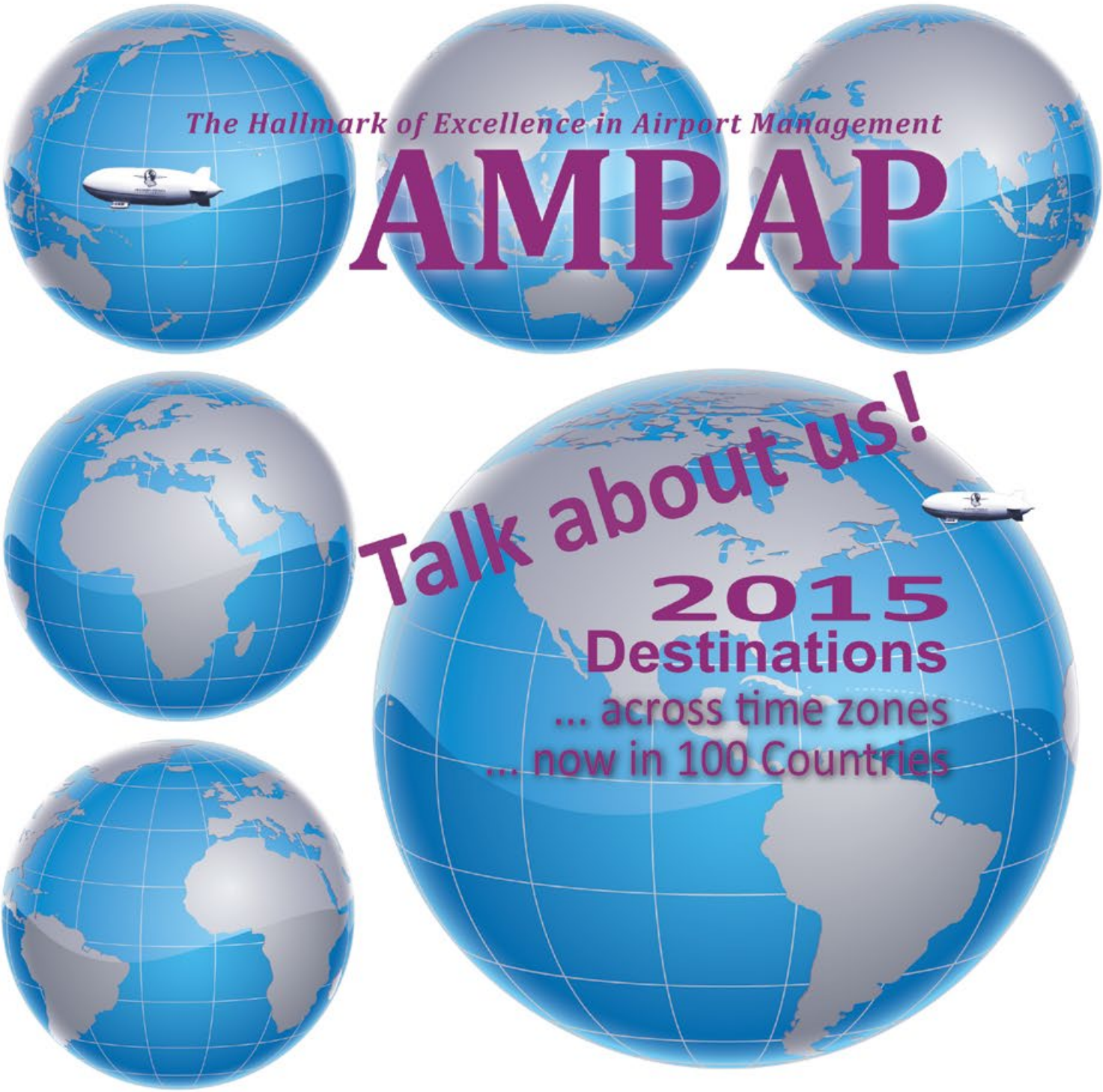

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ICAO

THE *ICAO JOURNAL*
VOLUME 70, NUMBER 2, 2015

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The *Journal* encourages submissions from interested individuals, Organizations and States wishing to share updates, perspectives or analysis related to global civil aviation.

Subscriptions and single copies
Yearly subscription (4 issues) US $40.
Single copies available for US $10. For subscription and sales information, please contact the Sales and Customer Relationship Unit
Tel: +1 (514) 954-8022
E-mail: sales@icao.int

Published in Montréal, Canada. ISSN 0018 8778.

Printed by ICAO

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BOEING

Image courtesy of Parrot

INTEGRATING RPAS INTO AIRSPACE

More than 600 people from 80 countries gathered at ICAO headquarters in March for the first Remotely Piloted Aircraft Systems (RPAS) Symposium. They represented the array of stakeholders in the rapidly growing field of commercial unmanned aircraft – operators, manufacturers, regulators, air navigation service providers, international organizations, universities, airlines, pilots, and even technology companies seeking to access airspace.

"Aviation is undergoing a fundamental change in light of the widespread introduction of unmanned aircraft," Dr. Olumuyiwa Benard Aliu, President of the ICAO Council, told Symposium participants in his opening remarks. "The presence of unmanned aircraft has been gradually increasing within our well-organized global system – so much so that it has now reached a point of real concern for the safety of manned aviation."

Many individuals flying unmanned aircraft are unfamiliar with how to operate them safely and responsibly. "This represents potential hazards to traditional aircraft operators, especially in close proximity to airports," Dr. Aliu noted.

But the purpose of the Symposium was not to stifle unmanned aircraft development. "We need to realize a comprehensive framework for this new category of aircraft operations, so that it will be integrated in a safe and efficient manner," said Dr. Aliu. "Many people, many organizations, many States, including through ICAO, are already working on this framework."

The Symposium theme was "Remotely Piloted or Piloted: Sharing One Aerospace System." There were more than 80 presentations and special-topic workshops across the three-day event on topics such as airworthiness, ATM integration, civil / military coordination, legal matters, licencing, national regulations, operations, safety management, and security.

Stephen Creamer, Director of the ICAO Air Navigation Bureau, said, "A collaborative approach promoting harmonized RPAS operations is essential. The RPAS industry needs to build strong relationships with authorities to share goals, exchange information, and establish common expectations." He suggested that RPAS companies who do not have the benefit of a traditional aviation background should consult with aviation partners to learn the processes and requirements of civil aviation.

Filip Cornelis, Head of Unit in charge of Aviation Safety, Aviation, and International Transport Affairs, Directorate General Mobility and Transport, European Commission (EC), outlined five guiding principles:

1. Drones need to be treated as new types of aircraft with proportionate rules based on the risk of each operation
2. EU rules for the safe provision of drone services need to be developed now
3. Technologies and standards need to be developed for the full integration of drones in the European airspace
4. Public acceptance is key to the growth of drone services
5. The operator of a drone is responsible for its use

"We need to realize a comprehensive framework for this new category of aircraft operations, so that it will be integrated in a safe and efficient manner."

- Dr. Olumuyiwa Benard Aliu

Google Project Wing leader Dave Vos, one of the Symposium keynote speakers, made a surprise announcement that the internet company plans to produce a low-cost (under US $2,000) automatic dependent surveillance-broadcast (ADS-B) transceiver. Vos said lack of ADS-B equipage is hindering Google's plans for a fleet of lightweight unmanned aircraft delivery systems. Google is also partnering with Rockwell Collins to develop anti-collision technology.

"We have to answer the question: What does the market find palatable in order to really transform? And that's where we're going," Vos said.

EVOLUTION OF ICAO'S RPAS ROLE

A decade ago, ICAO first became involved with unmanned aerial vehicles when the Air Navigation Commission (ANC) requested then-Secretary General Dr. Taïeb Chérif to consult with selected States and international organizations with respect to civil UAV activities, procedures, and operating authorizations. In 2007, ICAO established an Unmanned Aircraft Systems Study Group (UASSG), tasked with development of a regulatory framework for the safe integration of UAS in non-segregated airspace.

Following an initial period of research and analyses, the UASSG recommended a narrowing of ICAO's focus from all unmanned aircraft to only those that are remotely piloted.

Last year, the UASSG transitioned into the Remotely Piloted Aircraft Systems Panel (RPASP). The RPASP now coordinates and develops ICAO Standards and Recommended Practices (SARPs), procedures, and guidance material for RPAS to facilitate a safe, secure, and efficient integration of RPA.

The UASSG / RPASP group has produced two guidance documents, including Doc 10019 – *Manual on Remotely Piloted Aircraft Systems* – released in March 2015 prior to the RPAS Symposium. The manual provides information relevant to the introduction of RPAS into non-segregated airspace and at aerodromes, including discussion of airworthiness, operations, licencing, air traffic management, command and control, detect and avoid, safety management, as well as legal and security issues. Its intended worldwide audience is civil aviation authorities, RPAS operators, communications service providers, manufacturers, air navigation service providers, aerodrome operators, and other airspace users and stakeholders.

Thirty-four members serve on the RPASP, which is managed by ICAO RASP Programme Manager Leslie Cary. There are seven observers and more than 100 participants, including advisors.

The Panel aims to deliver proposed SARPs for unmanned aircraft to the ICAO Council for its consideration beginning in 2018. Once approved, the standards guide ICAO's Member States in setting their own national regulations.

The current focus is on standards related to airworthiness, operations, operator certification, and licencing of pilots. Standards for air traffic management and detect-and-avoid requirements are targeted for 2020. "We anticipate a rolling delivery of SARPs, procedures for air navigation services, and guidance material on a biennial basis for the next 10+ years until all topics are complete," Cary said. The RPAS Panel has more than 50 separate tasks on its agenda. ■

For more information, visit the RPAS Symposium page on the ICAO website: www.icao.int/Meetings/RPAS/Pages/default.aspx

For SARPs, documentation, and RPAS materials developed by States and international organizations, check out the RPAS iKit: http://cfapp.icao.int/tools/ikit/rpasikit/story.html

The Symposium featured presentations by RPAS subject experts from around the world.

The future is not predictable, but it is clear: just beyond the horizon is a day when humankind will be travelling on a regular basis on commercially operated sub-orbital flights.

ICAO / UNOOSA SYMPOSIUM EXPLORES SPACE FRONTIERS

"At its heart, flight is a prime example of the pioneering spirit of human beings – our seemingly untiring will to push against the limits that confront us and to explore new frontiers. Whether for research, tourism, or the pure thrill of testing the boundaries of ourselves and our planet, aerospace activity is without a doubt the next frontier for aviation," Dr. Olumuyiwa Benard Aliu, President of the ICAO Council, told participants from 37 countries during the opening session of the inaugural Aerospace Symposium jointly led by the International Civil Aviation Organization and the United Nations Office for Outer Space Affairs.

More than 350 people from both the aviation and space communities from around the globe came to the landmark event at ICAO Headquarters in Montréal, Canada, in March 2015 to explore regulations, practices, safety management, and systems engineering methods with regard to civil aviation, suborbital flights, and developments in space transportation – generally, how 21st century airspace can be safely and efficiently shared by outer space and civil aviation operators.

"To get to space and back, or even to get to the stratosphere or mesosphere and back, you need to go through the same airspace that airplanes fly in. This means that global civil aviation has an inherent safety concern here which must be recognized," stressed Dr. Aliu. "ICAO's table has always been a place where new ideas can be raised and debated openly, and where governments and the private sector can find practical areas of common ground to support their common objectives."

In her welcoming remarks, Simonetta Di Pippo, Director of UNOOSA, said the Symposium topic – emerging space activities and civil aviation – "is encompassing what represents a pivotal issue as more and more actors enter the space arena and it is becoming more and more evident that developments in future aerospace activities will impact on the application and implementation of space law and air law instruments."

She noted: "Given the growing number of benefits derived from space science and technology applications, the conduct of space activities by States, intergovernmental, and non-governmental entities, as well as the commercial and private sector, continues to expand rapidly. I see outstanding prospects for

strengthened involvement and exchange of experience among all relevant stakeholders in this emerging field of innovative space activities and civil aviation."

Keynoter Julie Payette, Canadian astronaut who travelled in space twice (1999 and 2009), said, "We are going to go to space on a commercial basis and it's at our doors. It's a reality that will become the norm in the next decades." Now Chief Operating Officer of the Montréal Science Centre, she urged those attending the Symposium to work together "to make it happen in a safe, careful, efficient, and intelligent manner."

Simonetta Di Pippo, Director, UNOOSA

UNOOSA'S ROLE IN SPACE

The United Nations Office for Outer Space Affairs (UNOOSA) works to promote international cooperation in the peaceful exploration and use of space, as well as the utilization of space science and technology and their applications for sustainable economic and social development. UNOOSA serves as the secretariat for the UN Committee on the Peaceful Uses of Outer Space (COPUOS) and its Scientific and Technical Subcommittee and Legal Subcommittee. It is also responsible for discharging the UN Secretary General's responsibilities under international space law and maintaining the UN Register of Objects Launched into Outer Space. In addition, the Office is the executive secretariat of the International Committee on Global Navigation Satellite Systems (ICG).

UNOOSA carries out capacity-building activities in space law and space policy, in particular related to the development of national regulatory frameworks on space activities, and strengthens the capacity of developing countries to use space science and technology and their applications for development by helping to integrate space capabilities into national development programmes, including through the United Nations Programme on Space Applications and the United Nations Platform for Space-Based Information for Disaster Management and Emergency Response (UN-SPIDER). UNOOSA conducts international workshops, training courses, technical advisory missions and pilot projects on topics that include remote sensing, satellite navigation, satellite meteorology, tele-education, tele-health and basic space science and technology for the benefit of developing nations.

Simonetta Di Pippo has served as Director of UNOOSA since March 2014. An Italian astrophysicist, she was formerly Director of the European Space Agency's Human Space Flight Directorate. Her 29 years of space-related activities include earth observation, advanced studies, space automation and robotics, space science, planetary science, human exploration, debris and asteroids threat, space safety, commercial human spaceflight, astronaut selection and coordination, and management of the International Space Station. UNOOSA is headquartered in Vienna, Austria.

THE FIRST STEP

The ICAO / UNOOSA Aerospace Symposium was the first in a planned series of unique inter-agency coordination efforts of the two UN bodies, aimed at strengthening dialogue between their communities on airspace management, commercial space transportation, and many other related issues and activities.

The Aerospace Symposium featured three days of presentations around two major themes: "Uniting the Aerospace Community" and "Ensuring the Safe Launch and Evolution of Aerospace Transport."

Panel topics included:

- Uniting the Aerospace Community
- Regulatory Practices in Aerospace Activities
- Integration with Aviation – Aerospace Transportation Providers / Aerospace Operators
- Integration with Aviation – Launch Site / Air and Space Port Operations
- Not Beyond Reach – Access and Equity to Aerospace Transportation
- Motivating the Next Generation
- Putting It All Together – Next Steps

Industry representatives whose organizations are pushing the boundaries of space transportation energized the audience with descriptions of technology and business innovations which demonstrate that commercial access to space is indeed within our collective grasp. Among the speakers (left to right): Jeff Greason, CEO and Chairman of the Board of Directors, XCOR Aerospace; Pascal Jaussi, Founder, Swiss Space Systems; Oscar Garcia, Chairman and CEO, InterFlight Global Corporation; and José Mariano López Urdiales, Founder and CEO, Zero2Infinity.

Andy Quinn, Managing Director of UK spaceflight safety consultancy Saturn SMS, who gave a presentation on "Evolutionary Commercial Spaceflight: Doing it Safely," remarked that, "The Symposium provided great debate and highlighted the disparate ideas on frameworks and vehicle levels of safety and design approaches. This will be no easy journey but it is a necessary journey and this Symposium is the first step."

In his presentation on "National Legislation Governing Commercial Space Activities," Dr. Paul Stephen Dempsey noted that global space activity of governments and private companies grew to US $314 billion in 2013 and that at least 26 States – about 14% of the members of the United Nations – currently regulate space activities. "Although many such laws focus on common issues, there is little harmonization between the approaches taken to licencing and regulation. States should attempt to harmonize their laws with other States, so that global uniformity might be enhanced and flag-of-convenience type forum shopping discouraged." Dr. Dempsey is Tomlinson Professor of Global Governance In Air & Space Law Director, Institute of Air & Space Law, McGill University, Montréal.

"Governmental oversight of space activities is essential to protect public safety, property, and the environment, and to fulfill State obligations under international law," he said. "Legislation is important to provide certainty, stability, and predictability of the legal regime essential for commercial investment. Licencing also is important as a governmental 'seal of approval' to facilitate investment and financing of the space enterprises, and to assuage their customers' concerns about the safety of aerospace vehicles."

New York University's Lewis Groswald, representing the Space Generational Advisory Council (SGAC) on the "Motivating the Next Generation" panel, commented, "My love for this field was first stoked by my grandmother's and father's love of *Star Trek* and all things science fiction. I was of the 'Picard generation,' while my father and his peers held Kirk first and foremost in their hearts." Groswald said, "Next-generation aerospace professionals will have to be more entrepreneurial than ever before as space activities become more commercialized. Scientific and technical acumen will no longer be enough – it is time for us to brush up on economics, too."

Saif Mohammed Al Suwaidi, Director General of the UAE Gulf Civil Aviation Authority (GCAA), said that new challenges, developments, and commercialization of outer space require new viable laws and conventions to fulfill ambitions of harnessing outer space to serve the civil aviation sector. He emphasized the GCAA's keenness to keep abreast of the latest developments in the civil aviation sector, especially in advanced technologies and outer space. The UAE launched its own Space Agency in 2014.

The next iteration of the ICAO / UNOOSA Aerospace Symposium is planned for 2016 in the United Arab Emirates (UAE).

While commercial aviation has celebrated its 100th year, in another 100 years we may do the same for aerospace transport. Dr. Aliu told Symposium participants: "Ultimately it's expected that spacecraft will be taking off every day and operate on much more of a point-to-point basis – potentially from urban centres. We're still quite a long way from that today, but if recent history is any guide then we should also be anticipating a period of rapidly accelerated development sometime in the near future." ■

Stay connected to the future of commercial space transport through ICAO's website: www.icao.int/space

AFI SECURITY & FACILITATION PLAN MOVING FORWARD

Stakeholders in African aviation have taken important first steps toward effective implementation of a common strategic framework of identified priorities and goals in a coordinated effort under the ICAO umbrella.

Approved by the ICAO Council in December 2014 as an ICAO programme, the Comprehensive Regional Implementation Plan for African Aviation Security and Facilitation (AFI SECFAL Plan) has moved steadily forward this year in meeting key milestones. Following preparatory meetings in February at ICAO Headquarters in Montréal, Canada and in Nairobi, Kenya in March, the first AFI SECFAL Steering Committee meeting was held in Maputo, Mozambique, 18 May 2015, during AFI Aviation Week.

The overall objective of the AFI SECFAL Plan is to enhance aviation security and facilitation in Africa in a sustainable manner. The ultimate goal is preventing acts of unlawful interference against civil aviation while facilitating the efficient movement of passengers and goods.

Previous such activities in Africa, sponsored and implemented by various stakeholders, have largely been independent initiatives focused on specific components of aviation security and facilitation. And although substantial results have been obtained in the past, enabling an increase in aviation activities, their sustainability has frequently been questioned.

An analysis of ICAO Universal Security Audit Programme (USAP) findings, together with other sources of information, highlighted that aviation security and facilitation in Africa is generally characterized by persistent and systemic deficiencies in the regulatory, oversight, and operational areas that result in unsatisfactory implementation of ICAO Standards in Annex 17 – *Security* and Annex 9 – *Facilitation*. Challenges include weak national legislation (primary law and operating regulations), governance arrangements, inadequate or inefficient infrastructure and services, insufficient funds, and lack of qualified personnel.

Moreover, problems are compounded by tenuous security environments, conflict zones, and the growing presence of terrorist, insurgent, and transnational criminal group activities.

ICAO Secretary General Raymond Benjamin (who retired in August), 4th from right, with Dr. Carlos Agostinho do Rosário, Mozambique Prime Minister (to the left of Mr. Benjamin in the photo) and delegates at the AFI SECFAL Plan meeting in Maputo, Mozambique.

The situation in Africa, of course, has potential implications that can adversely impact regional and international economies as the global aviation system transcends national borders.

Nonetheless, a number of States in the African Region have promulgated primary aviation security legislation and established National AVSEC programmes. Passenger traffic in the African region is expected to grow by more than 4.8 per cent in 2015.

To achieve the goals and objectives of the AFI SECFAL Plan, it is essential that African States demonstrate strong political and technical commitment to building capacity and to share resources, experiences, and information.

The Plan is fully in line with the ICAO Aviation Security Assistance and Capacity Building Strategy and the *No Country Left Behind* (NCLB) initiative. The NCLB initiative resolved that ICAO should provide more direct assistance to developing countries by playing a more active coordination role between States and by helping to generate the political will needed for States to pool resources, participate in regional efforts, earmark voluntary funds, and build capacity. The main goal of this work is to help ensure that implementation of ICAO Standards and Recommended Practices (SARPs) is better harmonized globally so that all States have access to the socio-economic benefits of safe, secure, and reliable air transport.

The implementation of the AFI SECFAL Plan is expected to cover a period of eight years.

"It is a key goal for our Organization to assist our States to the fullest extent possible with respect to the implementation of ICAO standards and policies. Only in this way can we ensure that No Country is Left Behind and optimize the socio-economic benefits which derive from safe, secure, and reliable air transport in Africa, fully in line with local needs and expectations."

– ICAO Council President Dr. Olumuyiwa Benard Aliu

The Plan progress and performance will be primarily measured in terms of ICAO's Universal Security Audit Programme Continuous Monitoring Approach (USAP-CMA) and progress against the stated objectives of the Plan, timely resolution of noted deficiencies, impact of training activities, the nature of major aviation security incidents, and a reduction in the number of Significant Security Concerns (SSeCs) identified and their timely resolution.

In the short-term (through December 2017), priority will be given to the improvement of aviation security and facilitation through establishment of programme coordination mechanisms, identification of financial and in-kind resources and, where needed, the resolution of specific issues. It is expected that at least 35 per cent of States in the region audited under the USAP-CMA achieve a minimum 65 per cent level of effective implementation (EI) of the critical elements (CEs) of a State's aviation security oversight system.

The rate of 65 per cent corresponds to the global average at the end of the second USAP cycle.

In the medium term (through December 2020), the focus will be to raise the level of aviation security so that a minimum 50 per cent of States in the region audited under the USAP-CMA achieve a minimum 65 per cent level of EI.

The long-term objective (through December 2023) is for a minimum of 90 per cent of AFI States to have achieved a minimum 65 per cent EI.

African States shall remain responsible for aviation security and facilitation consistent with the obligations under the Chicago Convention and its Annexes. As an ICAO programme, AFI SECFAL functions as a focal point for the prioritization of projects, coordination of activities, mobilization of political will and resources, and monitoring progress.

The Plan is managed under the supervision of the Regional Director, Eastern and Southern African Region (ESAF), Nairobi, who reports progress to the AFI SECFAL Steering Committee and assumes secretariat responsibilities, in close coordination with the ICAO Secretariat Headquarters.

A Regional Security and Facilitation Group (RASFG-AFI), to be established in September 2015 under the umbrella of AFCAC, will support the Steering Committee to identify regional security and facilitation issues and to increase awareness amongst stakeholders.

Expected by the end of 2015 are a needs analysis on training in all Member States, including an inventory of resources and existing courses, as well as a needs analysis to determine assistance resources with a view to develop assistance strategies. Train-the-trainers and Inspector courses are expected to commence in 2016.

In October 2016, there will be a status report to the 39th Session of

A copy of the full AFI SECFAL Comprehensive Regional Implementation Plan can be found at: www.icao.int/ESAF/AFI-Aviation-Week/Pages/AFI-SEC-FAL.aspx.

"A GLOBAL VILLAGE"

An Interview with Boubacar Djibo, Director of ICAO's Air Transport Bureau

Boubacar Djibo, Director of the Air Transport Bureau of the International Civil Aviation Organization (ICAO), brings more than 30 years of aviation experience to the role. Prior to being appointed ATB Director in November 2011, he served as Secretary General of the African Civil Aviation Commission (AFCAC), where he focused on developing a sustainable civil aviation system in Africa. Key initiatives included implementation of the Yamoussoukro Decision for the liberalization of air services, regional coordination for the implementation of ICAO Standards and Recommended Practices (SARPs), as well as training and capacity building together with the African Union, regional economic communities in Africa, ICAO, International Air Transport Association (IATA), Airports Council International (ACI), and African Airlines Association (AFRAA). Boubacar Djibo's aviation career began in 1984 and included positions as Director of Civil Aviation of Niger and ICAO Project Coordinator. He also served on the Boards of Directors of Air Afrique and the L'Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA).

In the second of a new series of interviews with ICAO leaders, ICAO Journal editor Rick Adams spoke with Boubacar Djibo about the role of the Air Transport Bureau and how ATB is addressing the strategic objectives within its mandate.

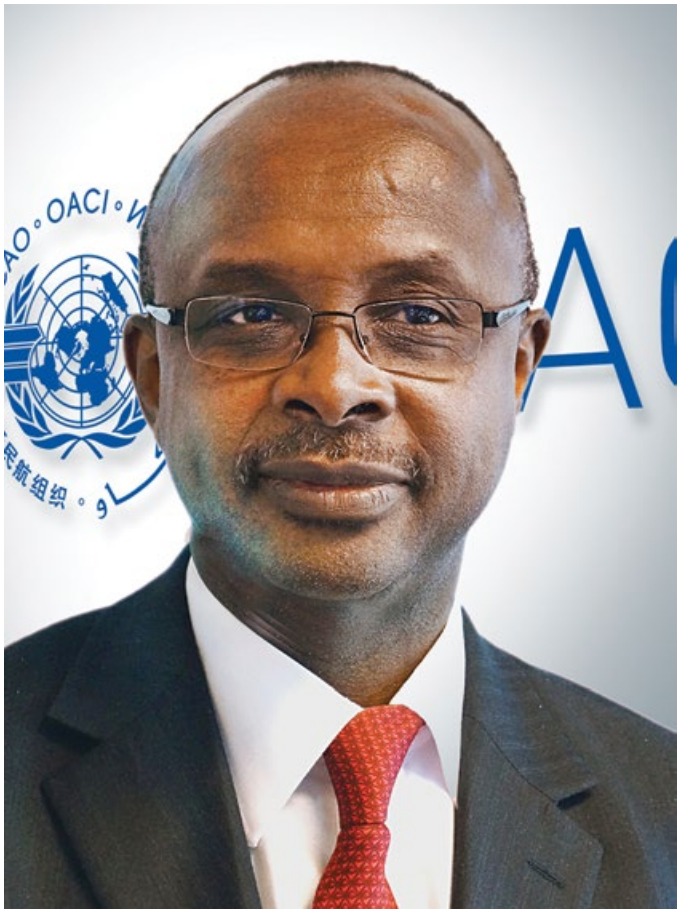
EDITOR: As a key part of the ICAO Secretariat, the ATB is involved with a range of activities – economic development, environmental protection, aviation security, passenger flow, financing, data analysis. What are your key areas of focus and major challenges today?

DIRECTOR DJIBO: I think we should recall that air transport is an economic activity globally. And as a specialized institution of the United Nations, the Member States have given ICAO a mandate to ensure that air transport is an effective and sustainable activity. The preamble to the Chicago Convention clearly states ICAO's mission "that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically."

Today ICAO has five strategic objectives, and ATB is dealing with three of them: security and facilitation, economic development of air transport, and environmental protection. Generally, these three strategic objectives are linked to the outside world.

We have 191 Member States and we have regional groupings which have mandates for economic development. So it means we have to deal with more than 200 ways of perceiving economic development. Aviation should be at the service of all of them. So it's a challenge to be sure we have satisfied the needs of everybody.

Environmental protection is the same thing. Despite international aviation representing only 2-3% [of global CO_2 emissions], we need to contribute. We know



"... global market-based measures have to be in addition to whatever international aviation can do on its own."

that is not easy. We need to succeed and demonstrate that aviation is an efficient activity and that we don't pollute if not really necessary. We need to do the maximum regarding technology and operational issues to be sure that we mitigate the footprint of international aviation.

With regard to security and facilitation, it goes together. We should protect aviation and at the same time we should facilitate the movement of goods and persons.

ICAO has a direct link with the Security Council of the United Nations to coordinate with them regarding security issues. In the discussion last year of challenges of the FTF [preventing travel of Foreign Terrorist Fighters], U.S. President Barack Obama pushed for a resolution where it clearly quoted that the Passenger Name Record (PNR) – which is a format we use for air travellers – should be used to prevent illegal, illicit activities.

[Note: UN Security Council resolution 2178 (2014), adopted unanimously during a meeting that heard from over 50 speakers – the Council condemned violent extremism and decided that Member States shall, consistent with international law, prevent the "recruiting, organizing, transporting, or equipping of individuals who travel to a State other than their States of residence or nationality for the purpose of the perpetration, planning of, or participation in terrorist acts."]

Facilitation goes together with security because everybody wants to move. The world is a global village. Usually there is agreement with free movement of goods but we are still working on free movement of people. It goes together.

And of course we need to ensure as part of the UN family that ICAO also contributes to the overall sustainability – sustainable development meets the need of the present without compromising the ability of future generations to meet their own needs. There are three circles to sustainability globally: economic, environmental, and social. We contribute directly to two of them – environmental and economic.

EDITOR: At the 38th ICAO Assembly in 2013, Member States agreed that ICAO should develop a proposal by next year's Assembly in 2016 for a global market-based measure (MBM) scheme for aviation to address climate change issues with carbon neutral growth to take effect by 2020 (Resolution A38-18). What are the ATB, the Council's Environment Advisory Group, and the Committee on Aviation Environmental Protection currently doing to marshal support for the MBM?

DIRECTOR DJIBO: We have a work programme approved by the ICAO Assembly, of course with the other relevant UN bodies. As we develop international aviation, we try to ensure that we add value and to mitigate whatever can be considered as an impediment.

We have a target of establishing a global market-based measure scheme. An MBM is an economic mechanism. And we will use it if there is really a need. But you know, that global market-based measures have to be in addition to whatever international aviation can do on its own. Which means that we need to ensure that operational measures – for example, shorten the flight path, shorten the time of flights – and technological measures such as new engines reduce the consumption. Only then will we go to the global MBM if need be. And here the challenge is when you touch economic measures you have an impact and everybody wants to assure that the impact is not more than needed.

"...our role is to create an enabling environment for the development of international civil aviation ..."

EDITOR: In April, ICAO held a series of Global Aviation Dialogues at venues in the Americas, Africa, the Middle East, Asia, and Europe which addressed climate change issues. What was the focus of those events?

DIRECTOR DJIBO: The focus was how to have a better understanding of the stakeholders. This is what the acronym intended – Global Aviation Dialogue, or GLAD, so everybody should of course be glad at the end of the process. The ICAO Assembly, as part of A38-18, requested that the Council organize seminars and workshops to share information and receive feedback – to go to the regions, to go to the States, to go to industry and explain the mandate given by the States, that we need to find an approach that will be acceptable for each and every Member State of ICAO.

There were no prepared statements so the time available could be fully used for constructive dialogue. Relevant ICAO background documents were published on the website in advance for reference.

EDITOR: As we talk today, the Solar Impulse 2 aircraft is part way through its historic round-the-world flight, an event which ICAO is supporting to help foster innovation in development of green technologies. What is ICAO's role in promoting alternative fuels for aviation?

DIRECTOR DJIBO: We need to recognize that things are moving and that it's possible under certain conditions to use green energy. It's something we are following closely.

The technology exists, the new types of fuel exist, but how do we ensure that industry stakeholders will use it and in an efficient and acceptable manner? The issue of alternative fuel or biofuel now is the availability and the acceptable price because the consumers, the operators, may use different types of fuel. The bottom line will be for them to see if it's more expensive, if it's available everywhere.

ICAO's role is to ensure that the alternative fuels meet the technical standards, through coordination with the industry, to be sure that any fuel satisfies the needs of the engine, the technologies, used in aviation. The second thing is to be sure it is available and affordable. We are not producers; our role is to create an enabling environment for the development of international civil aviation through more efficient flight, through less costly flight, and of course we need to contribute to the global sustainability.

EDITOR: By this November 24, all non-machine readable passports are supposed to be removed from circulation by Member States, based on Standard 3.10.1 in Annex 9 – *Facilitation*. What comes next?

DIRECTOR DJIBO: You know, the travel document – the machine readable travel document (MRTD) and now ePassport

– facilitates both security and ease of travel of passengers. The MRTD is a standard that has been approved more than 10 years ago and the discussion began well before that. It takes a long time to be sure that any citizen entitled to have a passport will have the appropriate passport, which should be readable by the authorities of the neighbouring States. We use the public key directory (PKD); on each and every passport we should have part of the data which is open to everybody, which entitles you with a passport to go in any Member State of ICAO and where this passport should be readable, at least regarding the information that has to be shared.

The next step is already here, the biometric passport or ePassport. For the moment, biometric passports are a recommended practice. But of course because they facilitate the management of border movement it's something which is being implemented by most of the States. Even if it's not mandatory, it's coming, it's recommended, and there's value – value for the government, value for the tourism and travel industry, value for aviation security, and of course for facilitation.

"We need to ensure that each and every Member State has the possibility to develop international air transport."

EDITOR: We are seeing more States implement alternative screening measures for so-called "trusted travellers." How does ICAO view such initiatives?

DIRECTOR DJIBO: Of course, the facilitation and security measures linked to aviation happen in airports. When you try to enter an airport, when you are in an airport, when you are onboard an aircraft, and sometimes when you land – screening of cargo, passenger screening at the arrival has a different perspective.

Whatever initiative coming from the industry, from the regions, and from the States which feeds into the objective of security and facilitation is welcomed by ICAO as such. We now have the automated border control (ABC), the advanced passenger information (API), the PNR. In some States they have a fast-track approach, the frequent traveller programme such as NEXUS in Canada, Global Entry in the United States, and in France the PARAFS (Passage Automatisé Rapide des Frontières Extérieures

Schengen). Everybody's trying to be sure that when we facilitate travel and we secure travel, it's a win-win situation for everyone.

We give the States targets, and they can have several ways of implementing. This is why, for example, ICAO's AVSEC branch put in place the "AVSECpaedia," like Wikipaedia. You have access to information about the types of technologies you can use. We do not recommend as such equipment or companies, but we want to ensure that each and every Member State knows what is available. We try to disseminate it and put the experts of all the States at the same level of awareness.

EDITOR: The High-Level Safety Conference (HLSC) earlier this year saw significant discussion of conflict zone risk mitigation, which presents some complex challenges with regard to States sharing information.

DIRECTOR DJIBO: Conflict zones affect ground and operations. You may have illegal, illicit activities on both. We are trying of course to contribute to ensure that the appropriate security information or anticipation exists and is understood and that the necessary security measures are taken. There is a high-level group working on it, including a centralized online resource which could help facilitate the exchange of information, and on some issues that were raised at the HLSC. The Member States have validated the approach and have given instruction to Council to ensure we do the best for international civil aviation.

ePassport: "... it's coming, it's recommended, and there's value ..."

EDITOR: You spoke initially of trying to blend the economic perceptions of more than 200 different entities. What are some ways the Bureau addresses its development mandate?

DIRECTOR DJIBO: The objective has to fit perfectly with the regional approach – economical, environmental, security and facilitation are implementable more efficiently on a regional basis. We need to ensure that each and every Member State has the possibility to develop international air transport. International air transport represents half of the international tourists – and for some islands like the West Indies, Seychelles, it goes up to 85%. You cannot develop those States without international air transport. The same thing for trade. Air cargo represents 35% of the value of international trade, even if it's only 2-3% in volume. That explains why DHL and UPS have 300-400 aircraft that they're operating. So there's a value and we are trying to continue to work, to coordinate with all the parties, all the States, and all the regions concerned.

Each year we organize an event, ICAN (ICAO Air Services Negotiation - 19-23 October 2015 in Antalya, Turkey) where we bring all the States together to negotiate traffic rights, operational rights, or to confirm the liberalization process. Then of course we have some regulations regarding how international air transport services should be assessed where we talk about competition, about consumer protection, and here also we need to have a consensus. Knowing that the competition rules in all the States are not the same, for harmonization we should have minimums acceptable for everybody.

EDITOR: The ATB manages a Statistics Programme, including economic studies and forecasting. What is the aim of this data collection and analyses?

DIRECTOR DJIBO: Data analysis is something that we are developing. We can see clearly that the regions which have strong economic development also have strong development of air transport and air cargo. We are ensuring that the data which is needed for the Member States and ICAO is available. Why? Council needs to know the level of activity in the world and how we plan the work resources of ICAO. If, for example, the air traffic in the world is to double within 20 years it means we need to make sure the Member States know the evolution and have the capacity to support the development of the States while ensuring safe, secure traffic. For the planning of the routes we need to know which traffic will be developed in which region. If we have a lot of traffic, it also means that the services of search-and-rescue, accident investigation, and everybody should be aware. When you have an overflight of the State, you take the responsibility to ensure that the overflight or the landing is safe.

EDITOR: You are also involved, to a certain extent, in funding guidance and financing?

DIRECTOR DJIBO: With regard to funding, for example, the Air Navigation Bureau is planning the Aviation System Block Upgrades (ASBUs). Estimates show that aviation will need 400 billion U.S. dollars for the implementation of the upgrades. Who will pay? We are quite sure at the end it will be the user. But then we need to convince the user and put acceptable charges and taxes on industry so we don't mitigate or affect the development of air transport. Or we don't create market distortion.

It has to be acceptable. It has to be without discrimination. It has to be on a cost recovery basis. Etcetera. We need to be sure that taxes that exist, for example, for aviation security go directly and entirely to develop the security of airports. And of course we have all the charges that affect economic activity. So we are working on it to make sure it's fair, transparent, and non-discriminatory.

EDITOR: How would you summarize the message of the Air Transport Bureau?

DIRECTOR DJIBO: For me it is the concept that aviation is needed by the Member States. It has value.

There's a direct link between accidents and Member States which fail in ensuring a sustainable approach, good governance, and ratification of ICAO international legal instruments to be able to establish a sustainable framework to develop their activities.

Maybe the message we should have is that we need to manage aviation differently. In 1944 when the Chicago Convention was adopted, everything was State-owned, from airlines to airports and air navigation services. Today in 2015, airlines, airports, air navigation service providers, aircraft builders, and ground handling companies are either privatized, commercialized, or economized. And it means that everybody needs sustainable financing and good governance. So we need to manage differently, and we need to ensure that whatever we want to do in aviation is sustainable and that the appropriate capability-building and financing is available. And then of course we need fair competition. ■

More information on ICAO's Air Transport Bureau can be found at: www.icao.int/secretariat/air-transport/Pages/default.aspx

NON-MRPS EXPIRE 24 NOVEMBER: FAQ

The requirement that non-MRPs expire by 24 November 2015 applies to all types of passports: Ordinary, Diplomatic, and Service.

What is a non-Machine Readable Passport (Non-MRP)?

Passports that are handwritten, include additional family members, or do not have a Machine Readable Zone (MRZ) are examples of non-Machine Readable Passports.

What about temporary documents?

The 24 November expiration date does not apply to temporary travel documents in cases of emergency, which usually have a short validity period and are issued by consulates to distressed nationals so that they can return to their home country.

Does ICAO Standard 3.10.1 call for obligatory biometric passports (ePassports)?

No. An ICAO Standard on obligatory ePassports does not exist, although it may become a requirement in the future.

What happens if a Member State does not comply with the Non-MRP deadline?

At this writing, ICAO has not taken an official position or published information on the possible consequences of not meeting the deadline.

However, given the importance of potential consequences, the Implementation and Capacity Building Working Group of ICAO's Technical Advisory Working Group on Machine Readable Travel Documents has been exploring possible scenarios in order to provide early warning and encourage measures that would assist States with meeting the deadline. For example, a State may apply corrective or preventive measures against another State that does not comply with the provisions of international law. After 24 November 2015, Member States may, for instance, refuse admittance to holders of non-MRPs or make visa processing more onerous and costly because of associated risks.

If such sanctions are introduced and applied after the deadline, they would bring costs and inconvenience to holders of non-MRPs. Consequences might include financial loss, increased cost, delay, refused entry, trip cancellation, and disappointment.

While no one solution fits all, a few guiding principles may provide assistance to Passport Offices in achieving compliance with Standard 3.10.1:

- The first step: recognizing whether your State can meet the 24 November 2015 deadline.
- If your State cannot meet the deadline, put together a constructive plan of action. Assess the extent of the problem. How many non-MRPs in your State expire after 24 November 2015? What are their expiration dates?
- Inform ICAO by responding to the Questionnaire that is available upon request to government agencies (from the ICAO Secretariat).
- If a State is unable to comply with Standard 3.10.1, the national civil aviation administration should 'file a difference' to give notice to the ICAO Council, as required by Article 38 of the Chicago Convention.
- Carry out an information campaign to inform your citizens about the deadline. Encourage them to renew non-compliant passports. Avoid negative messages. Stress the importance of meeting the deadline and how compliance with the ICAO Standard is your State's international obligation and will facilitate travel and make it more secure.
- If practical, implement facilitated processing for non-MRP renewal applications, such as a separate counter with shorter waiting times, a reduced renewal fee, or similar such measures, which are entirely at the discretion of the issuing authority.

Government officials are welcome to contact the ICAO Secretariat for inquiries and further advice concerning the deadline or to file a difference: fal@icao.int ■

For more information on Machine Readable Travel Documents (MRTDs), read the latest issue of MRTD REPORT magazine (www.icao.int/publications/journalsreports/2014/MRTD_Report_Vol10_No1.pdf) or visit the MRTD section on the ICAO website: www.icao.int/Security/mrtd

DIRECTORATE GENERAL OF CIVIL AVIATION OF INDONESIA

INDONESIA MOVING FORWARD

- SUPPORTING AIR TRANSPORT SERVICES
- SUPPORTING SAFETY
- SUPPORTING SECURITY
- SUPPORTING ENVIRONMENT

OVERVIEW

Indonesia In Numbers

Indonesia is the world's largest archipelago with 34 provinces and is located in a strategic position with abundant potential in terms of natural resources and cultural diversity. With a population of more than 235 million, and approximately 350 ethnic groups with over 483 languages and cultures, its stable economic growth and available investment opportunities have made Indonesia the world's third-largest democracy and a business and tourism destination considered by the international community. Indonesia's geographical position, which includes thousands of large and small islands, and substantial natural and human resource potential, considers air transportation a very important factor in its national economic growth.

Indonesian airspace is located in the heart of the Asia-Pacific region and plays an important role as a bridge for the regional airspace and transcontinental route shortcuts. Stretching from east to west along 3,264 NM with a total area of 2,219,629 square miles, the airspace allows for airline savings and greater efficiencies.

An Airways PBN facilitates and provides safety and efficiency on flights today, particularly in newer planes equipped with the latest satellite-based computer technology. An optional, more economical, flight level available with the parallel route PBN based can save significant fuel consumption.

The dual surveillance system provides safe and efficient separation through 36 radar stations simultaneously monitoring and providing surveillance backed up by 30 ADS-B stations installed and covering all of Indonesian airspace. ADS-B of data sharing has been agreed with neighboring countries (Australia and Singapore) toward a seamless regional ATM to enhance the capabilities of each ANSP at the same level.

HF, VHF and Extended Range (ER) covered our airspace as communication facilities strengthen aviation safety assurance and are backed up by data communications (ADS-CPDLC) that can reach all of the oceanic region in Indonesian Airspace.

Remarks	2009	2010	2011	2012	2013	2014*
Aircraft Enlist	1.009	1.122	1.209	1.324	1.434	1.455
Aircraft Operating	737	839	865	950	1.026	1.074
AOC 121	381	432	426	478	511	530
AOC 135	192	225	253	276	282	294
AOC 137, OC 91, PILOT SCHOOL & FASI	164	182	186	196	233	250

1	PASSENGERS	2010	2011	2012	2013	2014*
	- Domestic	51.775.656	60.197.306	71.421.464	75.770.222	76.498.400
	- International	6.614.937	8.152.133	9.938.291	10.964.559	10.252.461
	TOTAL	58.390.593	68.349.439	81.359.755	86.734.781	86.750.861
2	**GROWTH**	**2010**	**2011**	**2012**	**2013**	**2014***
	- Domestic	18,18	16,27	18,65	6,11	0,96
	- International	32,19	23,24	21,91	8,57	-6,49
	TOTAL	19,62	17,06	19,04	6,4	0,02

SUPPORTING FACTORS TO AIR TRANSPORT SERVICES NEEDS

To ensure domestic and international connectivity, Indonesia is supported by 18 airlines serving scheduled flights and 47 airlines serving non-scheduled flights.

DGCA Indonesia has issued permits for 294 routes connecting 113 cities in Indonesia, served by 18 airlines (15 for passenger and 3 for cargo). For international routes, DGCA Indonesia has issued permits for 56 routes which connect 11 cities in Indonesia with 28 cities abroad. These routes are served by 9 domestic airlines (6 passenger and 3 cargo airlines).

PIONEER ROUTES

To create access and encourage development in remote areas of Indonesia in order to increase the national economy, DGCA Indonesia has developed pioneer routes using a subsidy mechanism. Pioneer routes play a crucial role in national and regional economic development in Indonesia.

Currently, there are 170 routes connecting 24 provinces and 165 cities. At present, there are 33 fleets consisting of DHC-6 (Twin Otter), CESSNA 208B (Grand Carravan), and PILATUS PORTER (PC-6) to accomodate these routes.

Remarks	2010		2011		2012		2013		2014*	
	Amount	Growth	Amount	Growth	Amount	Growth	Amount	Growth	Amount	Growth
Pilots	6.874	6,55%	7.428	8,05%	7.948	7,00%	8.608	8,30%	9.341	8,52%
Flight Operation Officers (FOO)	3.097	9,51%	3.404	9,91%	3.679	8,07%	3.909	6,25%	4.093	4,71%
Flight Attendants (FA)	8.139	13,1%	9.150	12,42%	10.359	13,21%	12.190	17,68%	14.032	15,11%
Aircraft Maintenance Engineer License Holders (AMEL)	5.963	3,21%	6.279	5,31%	6.827	8,72%	7.199	5,45%	7.535	4,68%

Note: * based on DGCA of Indonesia data December 2014

SERVICES

Air Transport Services

In order to improve air transport services, the DGCA of Indonesia commits to give transparent, effective and efficient service by providing technology-based information. The Directorate of Air Transport as the working unit which is responsible to prepare the policies and standardization in Indonesia's air transport sector, has launched a user friendly, information technology-based service for the Flight Approval Online Application, Flight Route Permit Online Application, Airlines Licenses Application, On time Performance Report On Line Application and Hub Payment.

SLOT TIME COORDINATOR

To support a fluent time slot setting, based on the Regulation of the Minister of Transportation No. PM 13 of 2015 on the Implementation of Allocation of Airport Flight Time Availability (Slot Time), the time slot arrangements in Indonesia, which were once performed by Indonesian Slot Time Coordinator, has now been accommodated by an organization named Indonesian Airport Slot Management (IASM).

NATIONAL AIRLINES

Garuda Indonesia, one of the largest national airlines in Indonesia, serves as full service carrier and provides low-cost carrier services to multiple Indonesian destinations under its subsidiary PT Citilink Indonesia. Founded in 1949, the airline is now one of the world's leading airlines and the newest member of the exclusive group of 5-Star Airlines by Skytrax.

The airline operates regularly scheduled flights to a large number of destinations in Southeast Asia, East Asia, Middle-east, Australia and Europe from its main hubs in Jakarta, Surabaya, Medan, Denpasar, Balikpapan, and Makassar.

Presenting a new level of service excellence in air travel, Garuda Indonesia seamlessly connects 76 destinations worldwide to not only one of the largest economies in Southeast Asia, but also an array of exotic locations in the beautiful archipelago of Indonesia all at once.

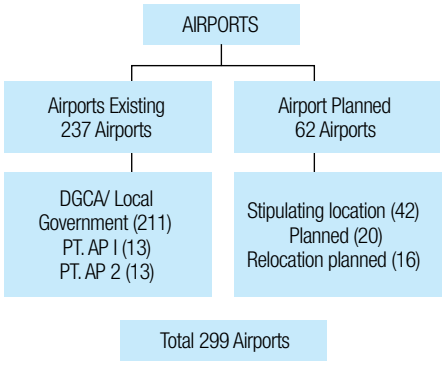
With close to 600 daily flights and a fleet of 169 aircraft with an average age of less than five years, Garuda Indonesia proudly serves its passengers with the award-winning "Garuda Indonesia Experience" service, which highlights Indonesia's warm hospitality and rich diverse culture.

As the airline embarked on its transformation program covering all aspects of the company starting in 2005, the International Air Transport Association (IATA) certified Garuda Indonesia as a registered operator under the IATA Operational Safety Audit (IOSA), a global best-practice standard for flight operations, aircraft maintenance and safety management systems, in 2008.

The progress of Garuda Indonesia's transformation program can be seen from achieving a Skytrax 5-star airline rating, ranked as the 7th best airline in the world in the 2014, as well as winning the prestigious "The World's Best Cabin Crew" award in 2014 and "The World's Best Economy Class" award in 2013, also from Skytrax.

Garuda Indonesia has also been named the best airline of the Asia and Australia region by the Airline Passenger Experience Association (APEX) for two consecutive years.

AIRPORTS PROFILE
(Ref. Transportation Minister Regulation No. PM 69/ 2013)



NATIONAL FACILITATION COMMITTEE

In order to facilitate and promote reliable aircraft services, the DGCA of Indonesia has established a National Facilitation Committee (FAL) and Airport Facilitation Committees in each province in Indonesia. DGCA of Indonesia is acting as the lead coordinator of the committee and working closely with other institutions such as Customs and Excise, Immigration, Health Quarantine, Animal and Plant Quarantine and others.

To ensure optimum service, the Immigration Authority is implementing Border Control Management and Passenger Analysis Units in all international airports in Indonesia. Immigration, Customs and DGCA are currently coordinating to implement the Advanced Passenger Information System (APIS) at all international airports.

AIRPORTS DEVELOPMENT IN INDONESIA

To further improve air transport services, Indonesia is giving special attention to any efforts to develop and improve the facilities at airports in Indonesia. Based on Minister Regulation Number 69 of 2013 on Airport Affairs, Indonesia has currently 237 airports located between Sabang and Merauke, with 29 among those being international airports. Indonesia also plans to build 62 new airports.

Airport expansion and development is evidence of Indonesia's goal to improve air transportation services to meet public needs. It has also become a key consideration for Indonesia's major expansion of Terminal 3 of Soekarno-Hatta International Airport-Banten, Labuan Bajo Airport-Komodo Island, Supadio Airport-Pontianak, and for the establishment of Kerta Jati Airport-Krawang, as well as relocation of Temindung Airport-Samarinda.

To support the implementation of the ASEAN Open Sky Policy 2015 and the AFTA agreement, Indonesia has prepared its five (5) international airports, to support those policies, i.e. Kuala Namu International Airport-Medan, Soekarno-Hatta International Airport-Banten, Juanda International Airport-Surabaya, Ngurah Rai International Airport-Bali, and Hasanuddin Airport-Makassar. These five international airports were chosen based on their readiness level in complying with the policies of ASEAN Open Sky. •

AVIATION SAFETY

Indonesian Commitment to Flight Safety

Indonesia has always given full attention to its commitment to flight safety in meeting the standards in accordance with the provisions of ICAO Annexes and related documents.

In order to support aviation safety, Indonesia is applying strict supervision without compromise in accordance with legislation. Indonesia has many large aircraft maintenance service providers with licensed and experienced personnel.

For pilots' physical condition and competence, DGCA requires pilots to routinely check their health to make sure they are fit to fly. The medical examination and issuance of medical certificates are conducted professionally by medical teams at the Flight Health Center.

VISION AND MISSION OF DIRECTORATE GENERAL OF CIVIL AVIATION

As the national civil aviation policy maker, DGCA has a vision and mission that is embodied in a Roadmap to Zero Accident, emphasizing Safety, Security, and Compliance Services to protect and gain public trust towards Zero Accident.

In order to achieve the Roadmap to Zero Accident, DGCA has also set key performance indicators based on targets.

AIR NAVIGATION SERVICE PROVIDER IN INDONESIA

The preparation of air navigation infrastructure throughout Indonesian airspace has been managed by the ANSP called AirNav Indonesia, a state-owned enterprise, technically supervised by the Ministry of Transport to provide air navigation services that are reliable and in accordance with ICAO rules.

Based on Government Regulation No. 77 of 2012 on Public Company Institution for Indonesia Air Navigation Services Provider, AirNav Indonesia officially provides its services to 26 airports of PT. Angkasa Pura I and PT. Angkasa Pura II, since 16 January 2013. The increase in services of AirNav Indonesia was followed by its services to 168 operational units of DGCA Airports' Service Unit on 1 October 2014. Accordingly, AirNav Indonesia has been providing the entire air navigation services in Indonesia, which consists of 2 area control centres, 25 terminal control units, 55 towers and more than 100 units of flight information managing 10,000 flights daily. The main business of AirNav Indonesia is Air Traffic Services, Aeronautical Telecommunications Services, Aeronautical Information Services, Aeronautical Meteorology Services and Search and Rescue Information.

AVIATION SAFETY INFORMATION SYSTEM

Aeronautical Information Publication has been provided through an online system enabling faster service and paperless information to support aviation safety. The system was developed and is owned by the Directorate of Air Navigation, DGCA. In addition, the Directorate of Air Navigation has developed the Electronic Safety Incident Reporting System (ESIRS) that also uses an online system allowing reports on ATS incidents in a faster way to improve aviation safety. ESIRS service is also available in android application for smartphone reports.

BATAM AERO TECHNIC

Batam Aero Technic, as one of the MROs in Indonesia, was established in 2004 to support Lion Air and Wings Air. Batam Aero Technic has offered a wide array of services which encompass the airframe services, engine services and component services to serve all airlines under the fleet of Lion Group including Batik Air, Lion Bizjet, Malindo Air and Wings Flying School.

Batam Aero Technic holds Indonesian DGCA-145 approval and other foreign authority approvals for aircraft maintenance organizations.

Located in Terminal 1A Soekarno Hatta International Airport-Banten, the Maintenance Control Centre is the centralized point of contact for all technical inquiries from airline operators. From this center, Batam Aero Center is coordinating every aspect of technical operations, 24/7 AOG requests, experienced troubleshooting and engineering support.

The engine services carried out by Batam Aero Technic are the beginning of a big leap towards "One-stop" engine service through high-quality product, optimum cost and delivery time in a mutual collaboration alongside customers, OEMs and vendors.

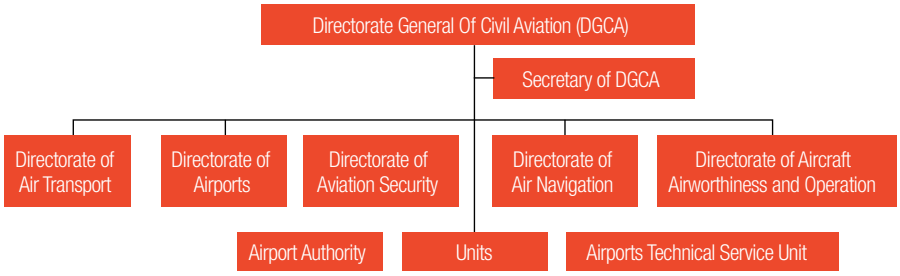
To support its operation, Batam Aero Technic utilizes the existing warehouse located in Lion Village-Cengkareng and Lion City-Balaraja.

The Batam Aero Technic has also developed a Design Organization Approval (DOA) program in collaboration with DGCA-Indonesia to support the MRO business. The design organization is an entry point for any requests regarding design and certification of aircraft changes or structural repair.

More than 3,000 employees have been recruited over a period of three years. This number not only meets the day-to-day operations as a result of changes in fleet size but also new capabilities and the operation of new facilities.

To meet the requirement of a skilled and competent workforce, Batam Aero Technic develops in-house training through the Lion Training Center (LTC) which is conducted in a new training facility located in the Lion City, Balaraja-Tangerang. This program includes cooperation with OEMs/ MROs for special training and OJT. •

ORGANIZATION CHART OF THE DIRECTORATE GENERAL OF CIVIL AVIATION



AVIATION SECURITY

Aviation Security Programs and Policies

In order to improve aviation security in the country, Indonesia has issued Regulation of the Minister of Transportation Number: PM 31 of 2013 on the National Civil Aviation Security Program and introduces the National Quality Control Program, the National Civil Aviation Security Training Program along with Staff Instructions on aviation security. Furthermore, Indonesia has issued the Airport Security Program, Aircraft Operator Security Program, and Regulated Agent Security Program which has been approved by the DGCA.

In conducting supervision under the framework of the National Quality Control Program of more than 200 airports throughout Indonesia, audits are conducted by the DGCA, as well as inspections, surveys and testing by ten Airport Authorities across Indonesia.

FLIGHT SECURITY PERSONNEL

Flight security in Indonesia is now supported by more than 3,000 licensed flight security personnel across all airports in Indonesia and more than 160 licensed aviation security inspectors across 10 Airport Authorities in Indonesia. •

ENVIRONMENT

Eco Airport

Indonesia is currently developing the concept of an Ecological Airport (Eco Airport) with a global vision of integrated environment, to support sustainable development.

The Eco Airport concept is regulated by Government Regulation No. 40 of 2012 that requires every airport to implement the Eco Airport concept.

ECO AIRPORT SUPPORTING ACTIVITIES

In order to support Eco Airports, Indonesia has introduced specific measures in its airports across the nation such as tree planting, energy saving through ecological and energy-efficient airport designs, installing solar cells, installing LED lights (taxiway light), water saving, and waste management through incinerators and composting.

IMPLEMENTATION OF ACTION PLANS TO REDUCE AIR TRANSPORT GREENHOUSE GASES

DGCA Indonesia has implemented programs under the National Action Plan to Reduce Air Transport Greenhouse Gases, as follows:

1. Establishing a Management Working Group on Climate Change and Greenhouse Gas Emissions Sub-Sector Air Transport since 2011.
2. Establishing a Working Team (Task Force) on Utilization of Biofuel on Aircraft (Aviation Biofuel) as well as Sustainable and Renewable Energy at the airport (ABRETF).
3. Becoming a member of ICAO's Committee on Aviation Environmental Protection (CAEP ICAO) Working Groups cycle 10.
4. Program MSA ICAO Annex 5 (INS Project 13801). •

FOREIGN COOPERATION

Indonesia Contributions in ICAO

As an ICAO Member State, Indonesia always strives to comply with all the ICAO Annexes, Standards and Recommended Practices that have been published by ICAO on aviation safety and security. Indonesia underwent ICAO USOAP audits in 2009 and 2014, and put the establishment of Corrective Action Plans to follow up on the audit's result as a priority, to ensure full compliance with ICAO requirements.

Recently, Indonesia hosted several major ICAO events. It was an honor and pleasure for Indonesia to gain ICAO trust in hosting the following ICAO events:

1. ICAO Air Services Negotiation Event, from 17 to 21 November 2014, in Bali; and
2. USOAP & CMA Regional Workshop, from 30 April to 2 May 2014, in Jakarta. Indonesia also hosted an International Green Aviation Conference (IGAC) in mid-August 2015 in Bali.

In the future, Indonesia is hoping to be able to contribute more to both technical and non-technical programs of ICAO.

INTERNATIONAL COOPERATION

To be able to advance the national air transport sector, Indonesia recognizes the importance of establishing technical cooperation on civil aviation with other countries and international organizations. With this purpose in mind, Indonesia is actively involved in international cooperation without neglecting national interests.

Currently, regarding international cooperation on air transport, Indonesia has mutual cooperation with 75 countries in the form of Bilateral Air Service Agreements and closely cooperates in the framework of multilateral cooperation of IMT-GT (Indonesia, Malaysia, Thailand Growth Triangle), BIMP-EAGA (Brunei, Indonesia, Malaysia, Philippines East ASEAN Growth Area), ASEAN, APEC, D8, WTO.

To increase the safety and security of its flights, Indonesia has also formed close technical partnership cooperation on civil aviation with some countries including the USA, Japan, Australia, France, and the Netherlands. •

AirNav Indonesia

FLY HIGH, SAFE And More Efficient within Indonesian Airspace

SATELLITE BASED TECHNOLOGY
(ADS-B IMPLEMENTATION)

NEW IMPLEMENTATION TOOLS FOR PBN

The global aviation community's highest air navigation priority is the implementation of Performance-Based Navigation (PBN). ICAO Assembly Resolution A37-11 called on States to develop a PBN implementation plan that would result in PBN instrument approaches at all of their international runways by 2016. However, many States are having difficulty implementing PBN: to date, fewer than 50% of States are forecast to meet the goal.

"Increasingly the Navigation (NAV) element of the Airspace Concept will be based on PBN." – ICAO PBN Overview.

Performance-Based Navigation is a concept based on the use of Area Navigation systems. It replaces the diverse, independently developed regional implementations with a global, standard Area Navigation concept. In keeping with ICAO's *No Country Left Behind* emphasis, PBN aims to achieve global harmonization, standard implementation, and complete interoperability.

In simple terms, PBN redefines the aircraft's required navigation capability from sensor (ie, equipment)-based to performance-based. It includes two types of navigation specifications: RNP specifications, which include a requirement for onboard performance monitoring and alerting, and RNAV specifications, which do not.

PBN is a key to implementing ICAO's Aviation System Block Upgrade (ASBU) plan, and is an enabler for continuous descent and continuous climb operations.

For five years, from 2009-14, PBN GO teams jointly staffed by ICAO and the International Air Transport Association (IATA) conducted assessments, as well as airspace design and operations approval training. "But 191 Member States is simply too many for GO teams to effectively cover," said Jeff MacDonald, former NavCanada Operations and Planning Director and now a consultant to ICAO.

The online PBN Overview addresses safety, capacity, operational efficiency, and environmental benefits.

"The push is coming from the airlines for increased capacity, improved airport accessibility, and shorter, more direct routing. Modern airlines all want performance-based navigation capability," MacDonald added.

Therefore, ICAO established a PBN Programme Office in 2014 to be the focal point for global PBN implementation initiatives and has developed an array of products and services to help States customize and accelerate their own PBN implementation strategies.

The first step is education: exactly what is Performance-Based Navigation? So the ICAO subject matter expert group has created various online training courses, including **PBN Overview**. The overview is a walk-through of PBN fundamentals, such as the NAVAID infrastructure (ground-based, space-based, and onboard navaids) as well as the safety, capacity, operational efficiency, and environmental benefits of PBN, including:

- More efficient and flexible use of airspace (route design and placement), resulting in increased aircraft fuel efficiency and reduced noise impact
- Design of straight-in instrument procedures with vertical guidance, improving both airport accessibility and flight safety
- Reduced need for and reliance on sensor-specific, ground-based navigation aids such as Non-Directional Beacons (NBD), VHF Omni-Directional Radio Range (VOR), and Distance-Measuring Equipment (DME).

A Workshop on Regional Implementation on PBN Airspace Redesign for the Caribbean (CAR) Region was held at the ICAO North American, Central American and Caribbean (NACC) Regional Office in Mexico City, Mexico. States including Antigua and Barbuda, Aruba, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Saint Lucia, Trinidad and Tobago, United States and Corporacion Centroamericana de Servicios de Navegación Aerea (COCESNA) attended.

PBN Start, another option in the product and services repertoire, provides a template which States can use to identify the areas that need to be addressed – planning, training, gap analysis, business cases, implementation assistance – and to develop short-, medium-, and long-term strategies for an ICAO-compliant PBN implementation plan. PBN Start is based on the lessons learned from the GO team visits to various States around the world.

Also available is the online **PBN iKit**, also known as "PBN in a Box." The iKit features essential information and implementation steps for key stakeholders, specifically addressed to aviation executives, regulators, air navigation service providers (ANSPs), aircraft operators, and manufacturers. The Executive section, for example, addresses PBN benefits, monitoring and measurement, relevant ICAO documents, relationship to the *Global Air Navigation Plan* (GANP), and the Assembly Resolution. For regulators, there are operations approval and airspace design sections. For ANSPs, airspace design, procedure design, aeronautical information services (AIM), and aircraft procedures. The section for aircraft operators focuses on ops approval, and for manufacturers the iKit addresses airworthiness.

ICAO can provide training in PBN procedure design, airspace design, and operations approval, either online or in a classroom format. The online course for pilots was recently developed with assistance from many current and former pilots, as well as several international organizations, and the online course for air traffic controllers which is in progress is a co-development with the International Federation of Air Traffic Controllers' Associations (IFATCA). PBN training for flight dispatchers is also in the initial stages of development.

The PBN Programme Office can also assist with the preparation of a needs / issues / concerns assessment, a business case, implementation plan, as well as identifying financial assistance, and more. The cost of each product varies and may need to be customized on a case-by-case basis. In some regions, the Flight Procedure Programme (FPP) office may be able to provide services as well.

The ICAO PBN website also includes links to third-party organizations which can assist in providing training, developing implementation plans, and designing instrument flight procedures. ■

Follow #icaoPBN on Twitter.

QUICK CLICKS to ICAO PBN Resources

ICAO PBN website: www.icao.int/safety/pbn/Pages/default.aspx

PBN Overview: www.icao.int/safety/pbn/Pages/Overview.aspx

PBN Products and Services (including PBN Start): www.icao.int/safety/pbn/Pages/PBN-Products-and-Services.aspx

PBN iKit: www.icao.int/safety/pbn/PBNiKitV3/story.html

Third-party PBN "recognition of compliance" sources: www.icao.int/safety/pbn/Pages/PBN-Recognition.aspx

Email the team directly: pbn@icao.int.

For formal or computer-based training, proceed directly to the ICAO Global Aviation Training (GAT) website: www.icao.int/Training/

NCLB

In 2014, ICAO adopted the No Country Left Behind campaign. The objective is to help Member States implement ICAO Standards and Recommended Practices (SARPs) – and that this implementation be better harmonized worldwide.

With No Country Left Behind, we focus on States with higher accident rates, security threats and low level of Standards implementation. We also help generate the political will for them to pool resources, participate in regional efforts, earmark voluntary funds, and build capacity.
- Dr. Olumuyiwa Benard Aliu

TAKING YOUR STAFF WITH YOU ON THE JOURNEY TO PERFORMANCE-BASED REGULATION

The UK CAA journey so far...

The introduction of ICAO Annex 19 paved the way for Performance-Based Regulation (PBR) in aviation. The new Annex describes how the Regulator and industry should address safety risks proactively and introduces the concept of overall safety performance in all domains of aviation.

EASA has also made some changes to its existing rule set by introducing rules on how the oversight programme for an organisation must be developed. These rules take into account the specific nature of the organisation, the complexity of its activities and the results of past certification and/or oversight activities. In addition it shall be based on the assessment of associated risks. This changing regulatory backdrop has a significant impact on the approach and behaviours of the regulatory staff.

To make the best use of the changing regulatory backdrop and to become a Performance-Based Regulator, transformation is required on many levels. A Regulator needs to work closely with industry to demonstrably reduce safety risk across the total aviation system and develop the capabilities required for future Regulators to succeed in the changed environment.

The natural focus of any implementation or transformation programme is to focus on establishing the processes and the systems required. This is important, yet it is the people that will work in this new approach to regulation and they are the key to any successful transformation to PBR. They will be the ones living and breathing the newly designed processes. Therefore, ensuring that everyone understands why you are transforming and what the benefits are is essential.

When rolling out PBR in the UK CAA, the Regulator soon recognised that key to achieving its vision depended on the investment made in their people.

The UK CAA believes that when transitioning to PBR, Regulators must not underestimate the people aspect. Some of the key questions to ask are:

- Do you know what skills your new organisation will require?
- Do your staff have the skills required?
- Specifically, do they have both the hard and soft skills that will be required to deliver PBR?

Embedding PBR into any Regulator's organisation relies on assuring that the staff in place has the right skills and competencies and to ensure that an organisational culture exists that supports this transformation.

A change to PBR is a very substantial change in everything a Regulator does. The focus is more on having challenging risk conversations with industry rather than pure compliance checks. However it is essential to ensure that everyone understands that compliance still remains one of the key components of



safety oversight. With this in mind, the skills needed for successful PBR may be quite different from the skill set available in the organisation. As such it is important to build on the technical and regulatory knowledge of the people in place, and move them towards a more risk- and performance-based approach. This way of regulating also requires the staff to use skills such as influencing/persuasion, negotiation and financial/commercial awareness to best effect and have discussions broader than their traditional subject matter expertise.

To ensure a successful transition or implement changes on a broader scale, the UK CAA believes it is absolutely critical to achieve 'buy-in' from the start. In the UK CAA's experience, this can only be achieved through robust processes, tools and training and information/justification for the people working in the new environment. The training must not only focus on how to use the processes and systems but should include the background of why this change is so important and how safety is improved and guaranteed throughout. An important aspect is also the practical implementation and what it means for the staff working in this new environment. To achieve 'buy-in' from regulatory staff, it is essential to be open to constructive criticism and to welcome suggestions and feedback from staff. Any such feedback, suggestions or best practice, if taken seriously, will make it easier for staff to feel part of the new approach, take some ownership and become an advocate of it early on.

To take your people on this transformation journey, it is essential to fully understand the organisational culture needed to support the transformation to PBR. It is especially important to understand the deeper level of basic assumptions and beliefs that are shared by people within the organisation, some of which may even operate unconsciously. The organisation usually has a view of itself and its environment, which may be seen as 'taken for granted'. To take your staff with you on the journey to PBR, it is essential to understand what is seen as important by the people in your organisation and to ensure the desired outcome and the lasting success of the Regulator is achieved.

By understanding what the organisational culture is currently (the 'As Is') and establishing what kind of future organisational culture would be best suited to deliver PBR (the 'To Be'), Regulators will be able to actively encourage the development of this new culture. This can be achieved through targeted interventions. By clearly defining the goals from the outset, any such interventions can also be targeted and adjusted if needed. These interventions form the vehicle by which the organisation will move from the 'As is' to the 'To Be'. This allows for the right adjustments to control systems to be made as well as organisational and/or power structures.

On its journey to PBR, the UK CAA has already started to put a number of interventions in place to support its staff to bridge the gap between the 'As Is' and 'To Be' positions. Some of these interventions are highlighted below:

- PBR enabling systems, tools and process
- Soft skills training and support on change resilience, matrix management and influencing
- Defining the competencies and capabilities to deliver PBR to recruit, develop and measure staff in the right way
- Updating roles and responsibilities to support delivery of PBR
- Started to define the 'As Is' and 'To Be' organisational culture in more detail to be clear on where the organisation is headed and where the gaps are to support its people.

For a successful transition to PBR, it is essential that staff are fully brought into the reasons for change and aware of how the transition will be achieved, how it will affect them and what support can be expected.

PBR aims to create better aviation Regulators and in some ways, it will change the way regulatory staff assess and interact with industry. Taking your people on this journey with you is key. It is essential not to underestimate the efforts required to influence the existing organisational culture, train staff on new skills and commit to ongoing support throughout the transition.

For more information on Performance-Based Regulation and U.K. CAA assistance, please visit:
www.caainternational.com/pbr
or contact: Matthew Margesson
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"INTERNATIONAL, IMPARTIAL, INDEPENDENT"

An interview with Jon Beatty, CEO, Flight Safety Foundation

Second in a series of interviews with world aviation leaders.

"Safety is a non-competitive space. The aviation industry's only as good as the last accident, and you're only as safe as your neighbour. By making everyone safer, you're actually benefitting your company. It's amazing how well all the people from the aircraft manufacturers and airlines and others in the industry work together and rally around the top safety issues and how to address them."

American Jon Beatty has been involved in aviation safety since getting his A&P mechanic's licence from Parks College in Saint Louis, Missouri. His entire career, in fact, has been with aviation companies; Textron Lycoming, Sikorsky Helicopters, BF Goodrich, Allied Signal Aerospace, Pratt & Whitney, and as President and CEO of International Aero Engines, the most successful international joint venture engine programme in aviation history.

Beatty took retirement from United Technologies in early 2014. "I got in about 90 days of playing golf and fishing and realized I wasn't really intellectually ready to retire. I got a call asking if I'd be interested in coming to work for the Foundation. They were looking for someone who had a safety background but who also had a business background and had run companies."

David McMillan, former chairman of the Flight Safety Foundation (FSF) Board of Governors and leader of the recent ICAO Task Force on Risks to Civil Aviation Arising from Conflict Zones, said, "Jon brings an international executive perspective that will be instrumental in moving the Foundation into its next chapter as the leading voice of aviation safety around the world."

Beatty served on both the ICAO conflict zone and aircraft tracking task forces. *ICAO Journal* editor Rick Adams spoke with Beatty at his Alexandria, Virginia, office just across the river from Washington, DC.

EDITOR: In your position, you're one of the first people to receive the phone call from the media when there's been a major accident. What perspective do you try to provide about aviation safety so the average non-aviation person can understand?

JON BEATTY: Today you have a world of 24-hour media and zero lag. CEOs are learning about accidents from their cell phone. It's on television before anyone is able to know what's happened.

What we need to talk about is that we have good safety policies and protocols and procedures in place. We need to let the experts do their jobs. We need to give these experts the space to be able to gather the information so they can understand the root cause and then take corrective action.

There's a lot of pressure from the media and so-called experts who step forward and want to speculate. People want to know what the root cause was 30 seconds after it happened.

We try to tell people that the industry is safe, and let the experts do their jobs. They will publish the report; corrective action will be put in place. From an industry perspective, from the victims' perspectives, from the manufacturer's perspective, let the experts do their jobs.

EDITOR: Despite some high-profile accidents, the overall safety trends are still positive in recent years.

JON BEATTY: We have to remember that global aviation is growing faster than almost any other segment. There are still a phenomenal number of people who have not flown, and emerging markets are growing faster than more stable markets. There is a wide disparity between how safe different regions are, but sometimes people in the U.S. and other regions can get lulled into a false sense of security. 'Why do we need to invest in safety? It's at its best point in 20 years.'

But it's a global environment. No one has the luxury of viewing themselves as just a domestic carrier. Anyone's accident is your accident, and either you learn from it or you may suffer the same consequences.

The role of safety is never done. There's always inherent risk in flying. There's always room for improvement. There's always opportunity, especially as technology evolves, to stay ahead of it and continue to work on safety.

We believe the strength of the Foundation is working with industry and operators to find the best possible safety solutions.

"It's absolutely in our best interests to be able to have people share data."

EDITOR: The Foundation is working on a 'big data' initiative with the U.S. Federal Aviation Administration (FAA). How did the Global Safety Information Project (GSIP) come about?

JON BEATTY: One of the big trends going forward is big data. We believe that in order for global aviation safety to take the next step, the industry must find a way to share – in a controlled way – data that's de-identified … and be able to address the data protection piece.

It's absolutely in our best interests to be able to have people share data so we can jointly agree on the top concerns and hot spots and who has best practices identifying and mitigating risks. Until you crack that hurdle, we're not going to see the same step change we've seen in safety over the last 10-15 years.

The FAA said, 'The Flight Safety Foundation is probably the ideal, the only group, to take on this project.' We've always been a kind of neutral clearing house. We don't have 'a dog in the fight' and we don't sell product. Our motivation is not to collect data, repackage it, and sell it to other people. We're not really interested in being the central housing of all the data. What we want to do is go out there, find out what has been done, benchmark the industry, make recommendations. There are so many different projects out there today; everyone wants to share, but no one fully understands exactly how, what, or who is doing what.

EDITOR: What's the scope of the data initiative and what steps are being taken?

JON BEATTY: The GSIP objective is to identify and address current issues surrounding the collection, analysis, protection, and use of information gathered through safety data collection and processing systems.

GSIP initially will focus on two regions – Pan America and Asia Pacific. The Foundation is working with ICAO's Regional Aviation Safety Groups (RASGs) in both of these regions. Asia Pacific, of course, has the most growth. Pan America, I would say, is arguably one of the more progressive in its use of data. As a region, Pan America has banded together and realized that it needs to be collaborative on safety and not competitive and they've made probably the most progress, I'd say, of any RASG out there. They've done a lot of nice work on safety data collection, sharing, and even attempting to work on the harder piece which is data protection or finding ways to get people to share without being held personally liable unless it's gross negligence, misconduct, or criminal activity.

"We need to let the experts do their jobs."

EDITOR: What's the process for the GSIP and what do you expect to come out of it?

JON BEATTY: First, we're holding a series of focus groups and workshops to find out what people are doing, what's working and what isn't, benchmark the industry, and issue a series of reports – a state of the union that would examine to what level people are sharing, the tools they are using, and success stories. We need input from airlines, business aviation, air navigation service providers, regulators, manufacturers, and other stakeholders.

We report to the FAA Commercial Aviation Safety Team (CAST) every two months. It's a two-year project which started in October 2014, and we think it's got legs to continue to other regions in the world, perhaps coming up with a series of toolkits that could be used for other regions to develop their own types of data projects.

EDITOR: Some people in the aviation industry are concerned about possible repercussions from data sharing.

JON BEATTY: One of our board members, Ken Quinn [partner in the law firm of Pillsbury Winthrop Shaw Pittman LLP and the Foundation's general counsel], was vice-chairman of the ICAO Safety Information Protection Task Force (SIP TF). He's starting a legal task force with lawyers from around the industry. Some people believe – I do too – that you can make great progress in safety data sharing but you have to address legal protection of data. If you have a voluntary system and they're still held criminally liable, then that would make people hesitant to want to participate. The risk is greater than the reward. It's a hard topic to crack because you've got local laws and jurisdictions, but you can't ignore it.

EDITOR: The Foundation is also gearing up for another information-rich initiative with which a lot of aviation people are familiar with – SKYbrary.

JON BEATTY: SKYbrary is a phenomenal portal. It's a wealth of knowledge; university professors use it to create lesson plans and safety professionals use it for background information on all sorts of topics. It posts all the accident investigation reports. CAST posts all their presentations and reports there. It's been growing about 20% a year the past five years, and it now has about 1.4 million users a year. [SKYbrary was launched in 2008.]

The Flight Safety Foundation entered into a partnership agreement with EUROCONTROL to jointly manage SKYbrary. Our joint goal is to make it more international and make it be known as the single reliable source for all things safety – Wikipedia with integrity for safety.

EDITOR: What do you mean about the integrity of the content?

JON BEATTY: One of the risks you run is information versus data. You could create a website and every time somebody gives you something you throw it in there and you end up with this gigantic mound of data. Different from Wikipedia, you can't post an opinion on SKYbrary. People at EUROCONTROL and the Foundation are monitoring and vetting content. Plus we use organizations such as the Air Pilots Guild and some universities to check for integrity and accuracy.

What we would really love to get to is a site that would allow you to easily navigate and go from data to information, ideally without opinion. It's harder done than said.

We view it as a phenomenal opportunity to be involved. It has lots of benefits and we think we can pull more content and keep the integrity really high.

[The SKYbrary Supervisory Board is co-chaired by Beatty and Frank Brenner, Director General of EUROCONTROL. Tzvetomir Blajev, coordinator of operational safety at EUROCONTROL, chair of FSF's International Advisory Committee, and a driving force behind the development of SKYbrary, is the board's executive secretary.]

EDITOR: The Foundation recently completed its 300th Basic Aviation Risk Standard (BARS) safety audit. Who is the five-year-old BARS programme targeted toward?

JON BEATTY: BARS focuses on the lower gross weight aircraft serving the mining and mineral industry. It is the high-risk category. In an effort to address this, the major resource companies, who outsource most of the lift, were doing individual small, home-grown, or self-proclaimed audits. If you tried to impose an IOSA [IATA Operational Safety Audit] on these operators, they just don't have the funding, infrastructure, manpower, or wherewithal to be able to pass a three-day audit.

These smaller organizations who are moving people to the oil rigs and to rather desolate inner-country mines don't have the full-blown safety infrastructure like large commercial transports. The major resource and mining companies wanted a more comprehensive standard, and they approached FSF to take on this challenge to create the BARS standard. The technical experts at these big companies were involved through the technical advisory committee (TAC) to help create a standard that made sense for this sector.

BARS allowed them to have a common standard where they could measure one provider against another. A potential provider of lift can then say how safe they are relative to the standard, how many findings they have, and what the corrective action is. They can also compare them against their peer group. We've been able to measure safety for BARS-audited carriers vs non and you can see a step function improvement. People who are following safety audits and standards obviously have a safer track record than those who do not.

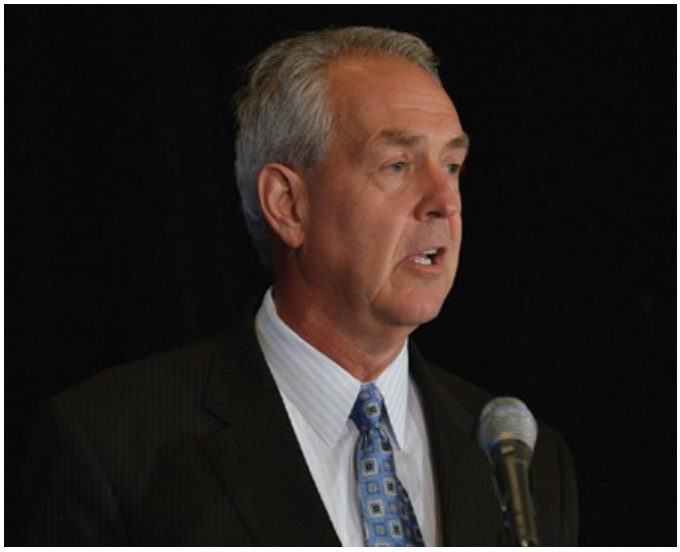
[Flight Safety Foundation announced in May the expansion of BARS to rotary-wing operators – the Basic Aviation Risk Standard for Offshore Helicopter Operations, or BARS OHO.]

"The role of safety is never done. There's always inherent risk in flying."

EDITOR: One of the Foundation's primary areas of focus has been pilot go-around decisions. What kinds of pressures are pilots under to not go-around?

JON BEATTY: We're hoping to have the final report by the end of the year for the Go-Around Decision-Making and Execution Project. I've recently seen the rough data output. It will allow people to have a better understanding of the risks associated with an unstable approach and the risks associated with a go-around. In a perfect world, you don't want to do either; you want to do a nice stable approach single landing. So the objective is better understanding and decision-making.

There is pressure on pilots to maintain schedule in commercial transport. There's absolutely pressure to be on time and not execute a go-around, even though they have the luxury to build in block time to the schedule. In business aviation, there is pressure when an executive buys a $50 million aircraft and wants to land and go to a meeting.



Pilots like published data because they can say Flight Safety Foundation has provided this data on go-around policy. 'The reason why we're doing this, Mr. CEO, is to keep you safe, and here's independent, third-party published data that backs up what we're doing as industry best practice.' It's an easier sell than having the pilot say, 'In my opinion …'

EDITOR: You've been in the role a year. What to you is the essence of the Foundation?

JON BEATTY: Flight Safety Foundation's heritage and legacy are absolutely amazing. What's unique to me is that the Foundation is still the only international, impartial, and independent non-profit organization solely dedicated to improving aviation safety. That allows us to work with the manufacturers and airlines to identify the top safety concerns and then address projects, education, and training seminars to bring these people together to improve it.

We have observer status at ICAO, which is something we cherish. It allows us to be really upfront and involved in all the meetings.

We have strong relationships with the FAA and a lot of the other civil aviation organizations around the world. ■

FLIGHT SAFETY FOUNDATION

independent • impartial • international

Flight Safety Foundation (www.flightsafety.org) is an independent, non-profit, international organization engaged in research, education, advocacy and publishing to improve aviation safety. Since 1947, the Foundation's mission is to be the leading voice of safety for the global aerospace community.

DUBLIN HOSTS INAUGURAL TRAINING SYMPOSIUM

A report on the inaugural ICAO Global Aviation Training and TRAINAIR PLUS Symposium by Chris Long. Reprinted from *Civil Aviation Training* magazine by permission of Halldale Media.

It is always challenging to pick a suitable venue for a global conference, but Dublin can give claim to some very convincing rights for such an event. Not least of these is the astonishing level of engagement in the aviation industry itself – some might be surprised to learn that over half of the world's aircraft fleet is owned and managed from Ireland. With responsibility for a major part of the North Atlantic aerial traffic, the Irish Aviation Authority (IAA) continues to be an early adopter of innovation in both regulation and operation, and that is recognized around the world as multiple cooperation agreements show.

When that capability is added to the traditional and unstinting Irish hospitality, there is a heady mix of professional expertise in the conference hall and relaxed hosting which welcomed some 71 nationalities and 400 delegates from many walks of aviation life. Regulators were there, alongside airlines and other operators and of course the key participants – trainers from a wide range of disciplines.

The introduction to the conference, delivered by Kevin O'Driscoll of the Dublin International Aviation Training Academy (DIATA), demonstrated the reach of Irish aviation competencies.

Raymond Benjamin, Secretary General (who retired in August), outlined the role of ICAO and within that the training responsibility, which is to identify and promulgate guidance to desired outcomes of training and procedures.

Throughout the conference there was a clear indication of the way that TRAINAIR PLUS works. The basis is of course to encourage organizations to update their training methods, but as they improve their skills there is a great interest in identifying best practice and promoting of such methodologies across the global audience.

TRAINAIR has encouraged levels of expertise in specific disciplines, and supports those who have focused on such areas and who are willing to share their knowledge, such that best practice becomes standardized and adopted on a global basis, which would lead to a general increased competence in aviation. In turn, the constant work to improve safety and efficiency will ideally become the common currency of the industry.

Naturally there are real challenges to reaching this worthy goal – selection and adoption of practical solutions from the dazzling array of emerging technology is an issue – what are the real game-changers?

"Increased coordination amongst States on required training needs and course offerings will be essential to meeting the projected global demand for our aviation professionals of the future." – Former ICAO Secretary General Raymond Benjamin (who retired in August)

The gradual realization that competency-based training and shaping of training tasks in light of recent operating experience (evidence-based training) can help the relevance and effectiveness of training is moving both regulators and training suppliers to new ways of working.

The incessant aim to improve safety is the driver – we just need to work out the best way to do that by retaining some of the best practices which have already been established and augment those intelligently with new ideas and techniques.

A major part of the event was in acknowledging the efforts already made by organizations, large and small, who have not only moved ideas along but who have actually implemented and, above all, shared those solutions and delivered them through the ICAO-approved TRAINAIR centres distributed around the world. Some 23 certificates were awarded as organizations were recognized for initiating these changes, as well as for those who had moved up in the scope of their work and cooperation.

This was a conference with a broad reach, both geographically and technically, probably with as much value in follow-up conversations as to what was immediately satisfied in the friendly and historic capital that is Dublin. ■

For more information about Global Aviation Training, visit www.icao.int/Training.

MALAYSIA AVIATION INDUSTRY : PAVING ITS WAY TOWARDS 2020

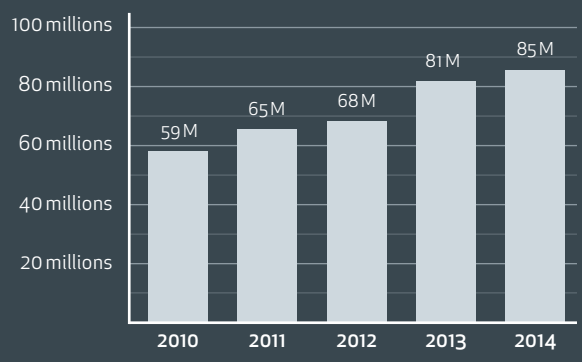
Civil aviation remains an integral part of Malaysia's globalized economy given its contribution to the national economy and its connection to global markets. It has facilitated trade, expanded export markets, generated tourism and is a key enabler of business and commerce. The progressive liberal aviation policy of Malaysia has, over the years, contributed to the rise in the number of passenger movements between 2010 and 2014.

Within the civil aviation industry, much emphasis has been directed towards transforming Malaysia's civil aviation industry by the year 2020. In 2015 Malaysia hosted the following international exhibitions and meetings, events that helped define the State as an aviation leader in the Asia Pacific Region.

Dato' Sri Mohammad Najib Tun Abdul Razak, Prime Minister of Malaysia during the launch of LIMA'15

Dato Sri Liow Tiong Lai, Minister of Transport Malaysia at the ASEAN Aviation Summit 2015

PASSENGER MOVEMENTS AT ALL MALAYSIA AIRPORTS (2010-2014)



Source: Department of Civil Aviation Malaysia

A. THE LANGKAWI INTERNATIONAL MARITIME AND AEROSPACE EXHIBITION (LIMA'15)

The Langkawi International Maritime and Aerospace Exhibition (LIMA'15) was held from 17-21 March 2015 at the Mahsuri International Exhibition Center (MIEC) in Langkawi. It was praised as the largest and most successful Exhibition since its inception in 1991. LIMA was officially opened by the Prime Minister of Malaysia, Dato' Sri Mohammad Najib Tun Abdul Razak and the number of participating companies this year exceeded the 433 registered for the event held two years prior. Some 113 aircraft were showcased in this exhibition, including five major helicopter companies such as Airbus, Boeing, Sikorsky, Augusta Westland and Bell Helicopters. This also includes 70 per cent of international aerospace and maritime industry agencies with market capitalization of more than USD 500 billion (RM 1.8 trillion).

The exhibition drew the attendance of key Association of South-East Asian Nations (ASEAN) Transport Ministers and Deputy Ministers, signifying the growing interest in the commercial sector. Officials present during LIMA'15 included the Secretary General from ICAO, which is Headquartered in Canada, as well as ASEAN Director Generals Civil Aviation and representatives from Vietnam, Cambodia, Brunei, Singapore, Laos, Philippine, Myanmar and the ICAO Regional Director for Asia Pacific.

B. ASEAN AVIATION SUMMIT 2015 (AAS) – THE FUTURE LANDSCAPE OF ASIAN AVIATION

The inaugural ASEAN Aviation Summit themed "Landscape of Asian Aviation" was held in Langkawi, Malaysia on 18 March 2015 with the Transport Minister, HE Dato' Sri Liow Tiong Lai, officially opening the event.

The Honorable Minister said that the crux of the success of the aviation sector in ASEAN, and throughout the world, hinges on the

collective ability of all players to ensure safety and security is foremost in strategy and execution. "Growth must come with responsibility and growth must be led by adhering to and improving our safety and security standards. This focus on safety and security permeates all facets of the sector, be it regulatory, manufacturing, services, technical know-how and design, among other key areas."

The Minister thanked ASEAN counterparts, industry participants and ICAO for the support and commitments given to Malaysia during the unprecedented tragedies of MH17, MH370 and QZ8501. Due to these tragic events, he stressed that there should not be any delay in implementing changes in the ways global and ASEAN commercial aviation operates. Learning from the unprecedented circumstances of MH370, the Minister informed participants that Malaysia presented recommendations to ICAO which would establish a requirement for extending the transmission of underwater flight locator equipment installed in flight recorder in all commercial aircraft.

Pursuant to this, MAS has installed a 15 minutes-data downloading system to keep track of its aircraft as part of aircraft security. In this regard, Malaysia was pleased to note that ICAO will be making a recommendation for real-time global tracking by 31 August 2015. Malaysia presented several recommendations to ICAO to ensure there are no reoccurrences of similar events. Another recommendation would require mandatory timely reporting of relevant information on flight risk by Member States to ICAO with ICAO disseminating such information to all Member States and airlines.

In addition to the above, it is noted that ICAO has set up two committees following the MH370 and MH17 tragedies: the first will review tracking system of the flight, while the second committee will undertake the reassessment of the routes.

GEARING TOWARDS 2020

MALAYSIA AIRLINES MOVING FORWARD

Malaysia Airlines is one of Asia's largest airlines, with over 60 destinations around Asia, Europe and Australasia. As a member of the oneworld alliance, Malaysia Airlines offers passengers seamless travel to nearly 900 destinations in more than 150 countries worldwide. The national carrier of Malaysia carried 17 million passengers in 2014. Including its subsidiaries Firefly and MASwings, the total number of passengers flown by Malaysia Airlines Group was 21 million in 2014. Malaysia Airlines carries an average 45,000 passengers on some 360 flights daily.

Malaysia Airlines Group (which includes subsidiaries Firefly, MASwings and MASkargo) has a fleet of 129 aircraft (as at the end of 2014). This includes flying six of the world's largest commercial passenger aircraft: the Airbus A380-800. As of 31 December 2014, the average age of the Malaysia Airlines Group's fleet was 4.16 years, making it one of the youngest fleets in the region.

The year 2014 was a watershed year for Malaysia Airlines. It suffered gravely from two unprecedented tragedies – the disappearance of MH370 in March, and just four months later, the downing of MH17. By August 2014, Malaysia Airlines' major shareholder and sovereign fund of Malaysia, Khazanah Nasional Berhad, announced the MAS Recovery Plan ("MRP"), a comprehensive and holistic restructuring plan for Malaysia's national carrier. The MRP is considered the first step in returning the loss-making national carrier to profitability. The complete 12-point overhaul calls for changes to every facet of the airline – structural, financial, operational, procedural and cultural. In May 2015, Malaysia Airlines announced the first-ever foreigner would lead the airline with the appointment of German national and aviation turnaround specialist, Christoph Mueller, as Chief Executive Officer to lead the transformation of Malaysia Airlines.

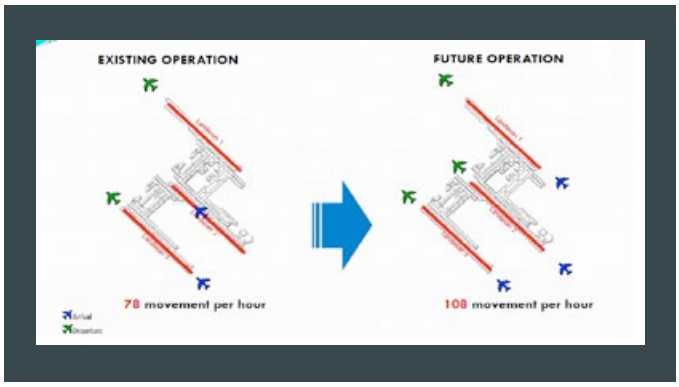
ESTABLISHMENT OF THE MALAYSIAN AVIATION COMMISSION 2015

The Malaysian Parliament passed the Malaysian Aviation Commission Bill in April 2015, an Act to establish the Malaysian Aviation Commission (MAC). The MAC is the first economic regulatory body in Southeast Asia which comprehensively regulates the industry and consumers in the aviation sector.

The main functions of the MAC, among others, are to improve connectivity, both globally and locally; to promote economic ties; integration and growth; trade; investment; and tourism. To ensure the Malaysian Aviation Commission performs its functions effectively and efficiently, the MAC will refer issues relating to technical, safety and security to the Department of Civil Aviation Malaysia (DCA). Determination of policy and the development of the aviation sector as a whole remains the responsibility of the Ministry of Transport Malaysia (MOT).

NEW KL ATCC PROJECT OBJECTIVES

1. To implement independent Simultaneous Parallel Approaches for KLIA 3-runway operation.
2. To reduce holding and congestion of radio transmission by rearranging airways and airspace.
3. To replace and intall new CNS/ ATM Systems.
4. To replace and to extend existing Search & Rescue coordination facilities.
5. To provide floor space for the addition CWP of the required sectors.



C. THE KUALA LUMPUR INTERNATIONAL AIRPORT (KLIA2)

Malaysia Airports was proud to welcome its first passengers and airlines to KLIA2, the world's largest dedicated low-cost carrier terminal, in the year 2014. The 257,000 square metre building with aerobridges and other support facilities were built at a cost of USD 1.06 billion (RM 4 billion) to replace the Low-Cost Carrier Terminal (LCCT) and redefine the traveller experience with world-class services and connectivity. Situated just two kilometres from KLIA Main, the facility boasts 128 check-in counters, 52 self-check-in kiosks and a fully automated baggage handling system. A dedicated runway and control tower ensures efficient aircraft operations.

A crucial component of the goal of Malaysia Airports to become a global leader in creating airport cities, KLIA2 is designed to handle as many as 45 million passengers a year – three times more than the LCCT – with the flexibility to expand based on capacity growth, airline projections and future low-cost travel trends. The terminal is designed not only for customer comfort and convenience, but also to ensure an exceptional travelling and retail experience. KLIA2 is the first terminal in the region with a sub bridge which allows full segregation at International Departure and Arrival. The opening of the 3rd Runway of the KLIA2 allows for less congestion and more airspace management efficiency in KLIA and KLIA2. The two runways enable two simultaneous take-offs and landings of aircraft.

D. THE NEW KL AIR TRAFFIC CONTROL CENTRE PROJECT

The New KL Air Traffic Control Centre Project (KL ATCC) is located at KLIA. A new KL ATCC Complex is required because the existing KL ATCC Complex is no longer able to accommodate the addition of the sector. The project is due to be completed in the 4th Quarter of 2018.

Airspace restructuring and expansion of area Control Capacity will enable Independent Simultaneous Parallel Approaches Operation on all three runways in KLIA.

ICAO TEAMS WITH POLAND ON AIR TRANSPORT DIAGNOSIS

A Memorandum of Understanding (MoU) was signed in June for the Global Air Transport Diagnosis Concept (GATDC), a collaborative research project between ICAO and the Interdisciplinary Centre for Mathematical and Computational Modelling (ICM), University of Warsaw. The MoU and presentations for European Union representatives, ICAO Council Members, and other aviation stakeholders took place at ICAO headquarters in Montréal, Canada.

"This is the first collaboration of this type between our country and ICAO," said Prof. Małgorzata Polkowska, Permanent Representative on the ICAO Council from the Republic of Poland.

Prof. Marek Niezgódka, Director of ICM, and Asst. Prof. Jan Malawko explained that the GATDC is aimed at a large-scale correlation to achieve optimum solutions for air transport system capabilities and resource engagement. The intent is to identify the most effective combination based on a minimum of energy consumption per passenger.

The GATDC project expects to link in-depth analysis of air transport operations and services with mathematical simulations and applications developed by ICM. Among the sources of data to be addressed are traffic distribution arrivals and departures at airports, currently unserved air transport demand potential, and optimized network connection models. Results could be used to improve the efficiency of different entities – airports, airlines, manufacturers, and environmental agencies – on a global, regional, or local scale.

PHOTO LEFT: Celebrating the signing of the Global Air Transport Diagnosis Concept MoU between ICAO and Warsaw University's ICM (left to right): Jan Malawko, Former ICAO Secretary General Raymond Benjamin (who retired in August), Małgorzata Polkowska, and Marek Niezgódka.
PHOTO RIGHT: ICAO Secretary General Raymond Benjamin (who retired in August) and Prof. Marek Niezgódka sign the GATDC MoU.

ICAO Council President Dr. Olumuyiwa Benard Aliu (third from left) and Prof. Malgorzata Polkowska (far left), Permanent Representative on the ICAO Council from Poland, hosted guests from Rzeszów University of Technology: (left to right) Dr. Beata Zatwarnicka-Madura, Prof. Grzegorz Ostasz, Dr.Grzegorz Lew and Mrs. Agnieszka Lew.

Prof. Polkowska said, "ICM serves the role of national laboratory in computational and information sciences. ICM is well recognized in global rankings. Webometrics [world ranking of universities] positioned it in 2015 on the sixth place in Europe and 16th worldwide. They have performed some major projects for LOT Polish Airlines, Boeing, Warsaw Chopin Airport, and the Polish Civil Aviation Authority."

Also in June, guests from the Rzeszów University of Technology Department of Management and Mechanical Engineering and Aeronautics visited ICAO headquarters, where they met with ICAO Council President, Dr. Olumuyiwa Benard Aliu, and Prof. Polkowska. They had an opportunity to see the ICAO Museum and the Warsaw Convention exhibition, founded by the Polish Delegation, as well as the Flaris Lar 1 donated to ICAO by Poland. They also visited ETS University (L'École de Technologie Supérieure) and the Institute of Air and Space Law of McGill University, plus the Wanda Stachiewicz Polish Library at McGill. ■

Two interns, Alicja Gajewska and Przemysław Kornaś, helped support the Polish Delegation and the Central European Rotation Group (CERG) during the 205th Session of the ICAO Council. Przemysław holds a Bachelor in Law degree and Alicja is currently enrolled in Aviation Management studies. The unique experience enabled them to attend informal briefings, assist with documentation, and become acquainted with the activities and history of the Organization. Young professionals from the United States, Colombia, Lebanon, and Canada, as well as various ICAO departments, joined Alicja and Przemysław and Prof. Polkowska for a networking coffee and to taste traditional Polish sweets.

Donated by the Polish Delegation, an exhibition commemorating the signing of the 1929 Warsaw Convention for the Unification of certain rules relating to international carriage by air is now on display on the fourth floor of ICAO headquarters in Montréal, Canada.

NEWS IN BRIEF

FIRST ICAO / WCO JOINT CARGO WORKSHOP

As a part of the "ICAO / WCO Joint Action Plan," the Secretariats of the International Civil Aviation Organization (ICAO) and World Customs Organization (WCO) held a first-ever Joint ICAO/WCO Workshop on Air Cargo Security and Facilitation in Bangkok, Thailand, attracting nearly 60 participants representing customs and aviation security authorities from 28 States, as well as representatives from the International Air Transport Association (IATA) and the Asian-Pacific Postal Union (APPU).

This pilot Workshop examined the international air cargo security supply chain and provided participants with the opportunity to share experiences and identify synergies in customs and civil aviation air cargo security processes with the aim of identifying areas for enhancing existing security provisions and the facilitation of the air cargo industry.

E-CIGS BANNED FROM BAGGAGE

An Addendum to ICAO Doc 9284, *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, prohibits passengers and crew from carrying e-cigarettes and other battery-powered portable electronic smoking devices in checked baggage. The amendment also prohibits recharging the devices in aircraft cabins.

CONFLICT ZONE REPOSITORY IS ONLINE

Responding directly to Member State recommendations from the High-level Safety Conference in February, ICAO launched its prototype conflict zone risk information repository in April. Only authorized State officials have the right to submit risk information under the procedures agreed to by the ICAO Council. In all cases, the identity of the State submitting information to the repository will be clearly indicated, and States being referenced in a risk submission will also have the opportunity to review and approve the related information prior to public posting.

"This centralized repository is meant to enhance the existing global framework whereby each State is responsible for assessing risks to civil aviation in their airspace, and for making that information promptly available to other States and airlines," stressed ICAO's Council President, Dr. Olumuyiwa Benard Aliu. "But while it does not alter these essential State responsibilities, it very much does respond to the strong international consensus we have seen around the proposal that the safety of our worldwide network would benefit from greater information sharing on conflict zone risks."

CANADA HONORS ICAO'S 70TH ANNIVERSARY

The Honourable Lisa Raitt, Canada's Minister of Transport, and the Honourable Rob Nicholson, Minister of Foreign Affairs, welcomed a high-level delegation to Parliament Hill in Ottawa, Canada in honor of the 70th anniversary of ICAO's founding. The delegation was comprised of ICAO Council President Dr. Olumuyiwa Benard Aliu, outgoing Secretary General Raymond Benjamin, and his successor Dr. Fang Liu, who recently became the first woman elected as Secretary General of ICAO.

"Canada has been there since the beginning and we will continue to support the essential work ICAO does to strengthen the safety, security and sustainability of civil aviation around the world," stated Minister Raitt.

Minister Nicholson said, "The visit represents for us an important part of our ongoing engagement with ICAO over the past 70 years. Canada remains strongly committed to the work and well-being of ICAO."

ICAO and Canadian Officials who participated in the Parliament Hill ceremonies (left to right): The Hon. Shelly Glover, Minister of Canadian Heritage and Official Languages; Former ICAO Secretary General Raymond Benjamin; The Hon. Andrew Scheer, MP, Speaker of the House of Commons; ICAO Council President Dr. Olumuyiwa Benard Aliu; The Hon. Leo Housakos, Speaker of the Senate; The Hon. Lisa Raitt, Canadian Minister of Transport; and incoming ICAO Secretary General Dr. Fang Liu.

MBM-FOCUSED GLADS REACH ALL REGIONS

ICAO has completed a series of five Global Aviation Dialogues (GLADs) on Market-based Measures (MBMs) and their potential role in mitigating CO_2 emissions from international aviation. The aim of the multi-region, two-day GLADs sessions was to share information on MBMs and provide a progress update on development of ICAO's global MBM scheme. In October 2013, ICAO committed to developing by 2016 a global MBM scheme covering aviation emissions, for implementation in 2020.
The five GLADs reached 350 participants from 79 countries and were conducted in Lima, Peru; Nairobi, Kenya; Cairo, Egypt; Singapore; and Madrid, Spain. The main highlights of the MBM dialogue sessions included environmental integrity, the simplicity and cost-effectiveness of a global scheme, the need for differentiation without discrimination, and the goal of avoiding excessive cost or administrative burdens.

ICAO conducted a seminar September 16-17 at its Headquarters in Montréal, Canada, on Global Aviation Partnerships on Emissions Reductions (E-GAP). This "Multiplying Environmental Action Seminar" provided a forum to showcase the synergetic effects of ICAO`s ongoing partnerships with governments and other organizations for actions to reduce emissions from international aviation.

A future issue of *ICAO Journal* will feature a special section on the Organization's initiatives on environmental issues.

ETHIOPIAN ACADEMY IS TRAINAIR PLUS MEMBER

The Ethiopian Aviation Academy has been awarded full membership of the ICAO TRAINAIR PLUS following the successful development of a Standardized Training Package (STP) on "Aviation English for Aircraft Maintenance Technicians."

Tewolde GebreMariam, CEO of Ethiopian Airlines Group, said, "The Academy is the bedrock of Ethiopian success structure making us self-sufficient in the provision of highly skilled and crucial aviation professionals such as pilots, aircraft technicians, cabin crew, marketing and finance personnel, and customer service agents, as well as aviation leaders. This full membership status is the result of the continuous heavy investment we are making on human resource development and the hard work of our Aviation Academy course developers and instructors."

EASA UPDATES VOLCANO OPS

The European Aviation Safety Agency (EASA) updated its recommendations for operations in European airspace in the event of another nearby volcanic eruption. Under the newly revised safety information bulletin, 2010-17R7, EASA is recommending that volcanic ash forecasts should be presented in the form of a zoning system that depicts areas of low, medium, and high concentrations in three different altitude bands.

European air traffic was halted for six days in spring 2010 when an Icelandic volcano eruption spewed ash into the air that eventually made its way to Europe. Most European states have now decided against another wholesale airspace closure in a similar situation because they recognize individual operators will make their own decisions regarding ash risk assessment.

ICAO INSTITUTES THAILAND SSC

The International Civil Aviation Authority (ICAO) has formally instituted a Serious Safety Concern (SSC) against Thailand after the country's Department of Civil Aviation (DCA) failed to adequately address regulatory oversight shortcomings identified during a Universal Safety Oversight Audit Programme (USOAP) inspection earlier this year. Problem areas include personnel licensing and training, airworthiness assessment and certification, airline operations oversight, and the granting of Air Operator Certificates (AOC) to airlines.

Thailand should be ready for a re-audit by the International Civil Aviation Organization (ICAO) on safety standards in the Fall, Indonesian Deputy Transport Minister Arkhom Termpittayapaisith has said.

MEDICAL ASSESSMENT OF LAGOS AIRPORT

Through its Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA), ICAO assessed the medical facilities and personnel at the Murtala Muhammed International Airport (MMIA) in Lagos, Nigeria. This is part of ICAO's global effort to improve countries' preparedness, planning and response to public health issues among air passengers.

The visits assessed the preparedness of their aviation sectors and offer training sessions including several assistance visits to States and airports in Africa, taking into account the priorities established by the World Health Organization (WHO) as contained in the International Health Regulations (2005).

Last year, an Ebola outbreak in West Africa generated great concern and focused attention on the aviation sector due to some reported cases linked to air travel in Nigeria and other affected countries.

Agencies involved in the assistance visit included the Nigerian Civil Aviation Authority (NCAA), Federal Ministry of Health/ Port Health Authority, Federal Airports Authority of Nigeria (FAAN), Nigerian Airspace Management Agency (NAMA), and both domestic and foreign airline operators.

MEAP SEEKS REGIONAL ATM COOPERATION

The ICAO Middle East Air Traffic Management Enhancement Programme (MEAP) is aimed at developing regional cooperation for air traffic management and route network optimization in one of the highest air traffic growth regions. The initiative is "a great demonstration of collaboration," according to Ahmed Ibrahim Al Jallaf, Assistant Director General, Air Navigation Services Provider of the UAE's General Civil Aviation Authority (GCAA).

A dedicated project management office is to be established for MEAP with a specialized project manager to head the initiative. The PMO will look at developing the masterplan and evolve project charters and cost-benefit analysis. The first studies are expected for the next MEAP meeting in Cairo, Egypt in October 2015.

LAOS SCORES HIGH

An ICAO Coordinated Validation Mission (ICVM) team awarded Laos a high score following a procedures audit. The ICVM team inspected civil aviation legislation and regulations, civil aviation organization, airports, personnel licensing, aircraft operations, and air navigation services. Yakua Lorpangkao, Directorate of Civil Aviation (DCA), called it an "historic milestone" to achieve such a high score from the ICAO mission.

Laos was first audited by ICAO in April 1999, followed by the ICAO Universal Safety Oversight Audit Programme in March 2002, to access capability and capacity of the department. The Laos DCA has formed a strong partnership with ICAO and other aviation related international organizations, which has resulted in improvements such as the establishment of the first Lao Civil Aviation Safety Regulations (CASR) in 2003 and the Law on Civil Aviation in 2005.

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