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ON AVIATION AND
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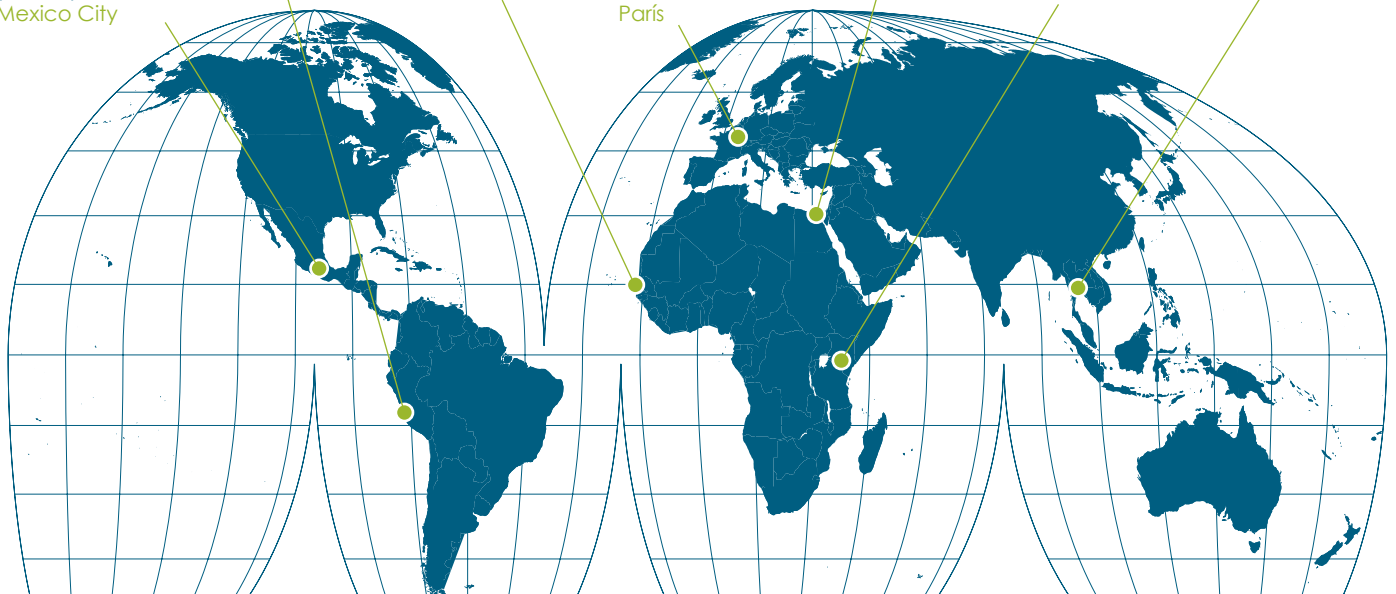
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Raymond Benjamin, ICAO Secretary General

ASSESSING OUR ENVIRONMENTAL PROGRESS

 At our 37th Assembly in 2010, ICAO's Member States established environmental objectives for our Organization to pursue through Resolution A37-19.

As we prepare now for an important symposium on aviation and the environment, not to mention our 38th Assembly later this Fall, we have a useful opportunity to look at how we have progressed on the environmental objectives which ICAO and its Member States have been pursuing during the current triennium. To begin with, let's review precisely what our States requested back in 2010 so that we can understand how our resources have been used and measure what our collective progress has been.

A37 reaffirmed the responsibility of ICAO and its Member States to achieve maximum compatibility between the safe and orderly development of civil aviation

and the quality of the environment. It focused our efforts in this regard on three main priorities: to limit or reduce the number of people affected by significant aircraft noise; to limit or reduce the impact of aviation emissions on local air quality; and to limit or reduce the impact of aviation greenhouse gas (GHG) emissions on the global climate.

A37 also resolved that States and relevant organizations will work through ICAO to achieve a global annual average fuel efficiency improvement of two per cent until 2020, as well as an aspirational global fuel efficiency improvement rate of two per cent per annum from 2021 to 2050. In addition, A37 adopted a medium-term global aspirational goal from 2020 that would ensure that while the international aviation sector continues to grow, its global CO₂ emissions would be stabilized at 2020 levels.

With respect to our work on aircraft noise, ICAO's Committee on Aviation Environmental Protection (CAEP) has been conducting a thorough review of the respective technological, environmental and economic factors in recent years, supporting the ICAO Balanced Approach policy on airport noise management. This work culminated in consensus through the CAEP/9 meeting this past February on a new noise standard 7EPNdB below ICAO's current limit.

The new noise standard will be applicable to new-design aircraft entering into service from 2017, while for lighter weight airplanes it becomes applicable in 2020. It will provide for a much quieter environment for the many communities living in proximity to the world's airports and represents a significant accomplishment through the CAEP, notably as it was able to develop this new limit in less than half the time it took to deliver the previous threshold in this area.

With respect to local air quality improvement, a great deal of new information is now becoming available in the field of particulate matter and its impacts. This data is helping to accelerate the CAEP's determination of a new standard in this area by 2016 and we will be reporting more on this progress to A38 in September.

Climate change was the main focus of the environment-related deliberations at A37 and it noted that, to reduce international aviation CO₂ emissions and promote sustainable aviation growth, a comprehensive approach consisting of work on new technologies, standards, and operational and market-based measures would be necessary. This is where our efforts have been focused since 2010 and we have seen some very positive results on all fronts.

A key area of aviation emissions reduction progress has been the development of our Member States' Action Plans on aviation CO₂ mitigation. ICAO has provided hands-on assistance supporting the plans' preparation, submission

and implementation and this process has helped us become much more directly aware of and engaged with our States on an issue of crucial importance to our sector and our planet. To date, States representing almost 80 per cent of international traffic have submitted their action plans.

On technologies and standards the CAEP continues to progress ICAO's work on the development of the first-ever global CO₂ standard for aircraft. At CAEP/9 the required certification procedures and the next steps to finalize the standard were agreed. We anticipate further progress in this area post A38.

In terms of operational improvements, global aviation has made progress in several important areas. One significant example is our progress on Performance-based Navigation and related efforts to deliver shorter, more efficient routes. These have achieved a direct win-win benefit to aviation in terms of reduced fuel burn and costs for airlines and decreased carbon emissions for the planet. The CAEP will be working to more specifically assess the environmental benefits of PBN and many other improvements driven by ICAO's Aviation System Block Upgrade capacity and efficiency strategy.

Tremendous progress has also been seen in the development and use of sustainable alternative and biofuels for jet aircraft. Where at A37 these were still an ambition, the more than 1,500 commercial flights that have made use of them in the three years since confirms their technical viability. ICAO is focusing now on facilitating their development and scaling up deployment.

In the area of market-based measures for emissions reduction, ICAO has concentrated on two priorities established at A37: research on the feasibility of a harmonized global MBM scheme for our sector; and developing a framework to guide considerations on how MBMs should be applied to international aviation.

This work has significant global economic and political implications and ICAO's Member States continue to move both issues forward. Related progress is being realized through events and meetings organized by the Secretariat and notably in the Chamber of the ICAO Council, where a High-level Group on Aviation and Climate Change was formed to accelerate related policy deliberations.


In concluding I would stress that, despite the significant advancements being seen on these and the many other aviation environmental protection objectives you'll find reported on in the following pages, more can and must be done to deliver further tangible developments in aid of our noise, local air quality and international emissions goals.

I look forward to how A38 will respond to these results, and especially to the new roadmaps it will set for us on all matters relating to aviation environmental protection. ■

DRIVING PROGRESS THROUGH ACTION ON AVIATION AND THE ENVIRONMENT



by Jane Hupe, ICAO's Chief, Environment Branch

 During the past three years, ICAO has been especially active in developing a global environmental strategy to address international aviation and climate change.

In an interview with the *ICAO Journal*, Jane Hupe, ICAO's Chief, Environment Branch, discussed the key elements contributing to the rapid environmental progress towards the sustainable future of international aviation, including through: the Committee on Aviation Environmental Protection (CAEP) in delivering agreement on the certification procedures supporting a new CO₂ standard for aircraft; the momentum created by ICAO's Rio+20 global initiative of connecting flights powered by sustainable alternative fuels ('Flightpath to a Sustainable Future'); the formation of a High-level Group to provide recommendations on a series of policy issues, such as market-based measures (MBMs); and the overwhelming engagement of States in developing their Action Plans for CO₂ emission reduction. The interview also highlighted challenges for the Organization for the 38th Session of the ICAO Assembly in September.

ICAO JOURNAL: THE TRIENNIAL MEETING OF ICAO'S COMMITTEE ON AVIATION ENVIRONMENTAL PROTECTION (CAEP/9) MADE IMPORTANT PROGRESS IN DELIVERING AGREEMENT ON THE CERTIFICATION PROCEDURES SUPPORTING A NEW CO₂ STANDARD FOR AIRCRAFT, AS WELL AS A NEW GLOBAL NOISE STANDARD. CAN YOU COMMENT ON THE OUTCOMES OF CAEP/9 AND WHAT THOSE DECISIONS MEAN FOR STATES AND THE GLOBAL AVIATION COMMUNITY?

JH: ICAO has three environmental goals for international aviation. They are related to reducing the number of people exposed to significant aircraft noise, as well as reducing the impact of aviation emissions on global climate and local air quality.

The results of CAEP/9 were excellent in that they represent further steps toward achieving those goals. They are the outcome of a very challenging meeting in which the international community showed willingness to compromise. States and industry did not arrive at the meeting with the same viewpoint on standards for noise and other issues, but ultimately there was consensus among all parties to move forward.

I've been involved in CAEP as its Secretary for 15 years and it is clear that progressively the decisions by the Committee have become more data driven. I think we are getting better and better in terms of how CAEP does its assessments, on the transparency of our process and the sheer amount of information being generated. That certainly facilitates reaching a consensus.

Another difference at this CAEP meeting was that rather than focus in just one area, we progressed on all three fronts (noise, CO₂, air quality). The results include a new noise standard that is expected to deliver gains equivalent to the last Chapter 4 in terms of reducing the number of people affected by noise and which was developed in half the time it took to move from Chapter 3 to Chapter 4. That's a great accomplishment. CAEP also progressed on the CO₂ Standard. Now we have agreed Annex 16 Volume III certification procedures. (We still have to complete a standard-setting process but we have a firm commitment and decision on the work plan). Finally, there were a lot of breakthroughs on particulate matter which falls into the area of local air quality.

We are very encouraged by that progress and the possibility of having a first standard for particulates at the next CAEP meeting. So this shows very good results on all three fronts and I think CAEP/9 was quite historic in that sense.

WHAT IS THE PARTICULAR SIGNIFICANCE OF THE AGREEMENT ON THE CERTIFICATION PROCEDURES SUPPORTING A NEW CO₂ STANDARD FOR AIRCRAFT?

JH: I would describe what happened in the CAEP/9 meeting as "the dawning of the CO₂ Standard". We have certification Standards for noise and Standards for local air quality emissions. What we didn't have was a Standard to address aviation effects on global climate change. This is the objective of the new CO₂ Standard CAEP is working on and it is essentially starting from scratch and creating a completely new technology-related CO₂ Standard for the certification of aircraft. Once that Standard is completed, a new volume of Annex 16 of the Chicago Convention will be added.

"FLIGHTPATH TO A SUSTAINABLE FUTURE" SHOWCASED, IN A CONCRETE MANNER, THAT SUSTAINABLE BIOFUELS ARE NOW A REALITY. WHAT FUTURE DEVELOPMENTS CAN WE EXPECT TO SEE IN TERMS OF SUSTAINABLE ALTERNATIVE FUELS?

JH: It's another item in our basket of measures to address climate change. The big difference that we see between where we were at the last Assembly and where we're going to be at the upcoming Assembly is that there is no doubt for anyone that sustainable alternative fuels are now a reality. We have testimony; more than 1,500 commercial flights are using sustainable fuels and mainly biofuels, so the technology is out there. The challenge now is really the viability in terms of volume and price. The big discussion is going to be related to capacity building, financing and market incentives for the aviation sector and galvanizing the political will to make it happen.

The ease of distribution here is compelling. If we had biofuel serving just 190 airports in the world, we could cover 80 per cent of our global airline operations which is huge. No other sector has only 190 entry points for the bulk of its energy supply worldwide. This is a great facilitating aspect for the introduction of aviation biofuels. Some of the studies are showing us benefits in lifecycle CO₂ impact of up to 80 per cent. This is a compelling strategic opportunity and we have to profit from that opportunity. Of course, the difference in price is a problem. Biofuels are much more expensive now. We need volume; we need to match demand for low cost sustainable energy.

Since the flight to Rio (Rio +20), we have established an expert group for sustainable fuels with members from all over the world and we have drafted recommendations that the Council will consider in terms of what should be presented to the upcoming Assembly.

"I've been involved in CAEP as a secretary for 15 years and it is clear that progressively the decisions by the Committee have become more data driven. I think we are getting better and better in terms of how CAEP does its assessments, on the transparency of our process and the sheer amount of information being generated."

IN NOVEMBER 2012, ICAO FORMED A HIGH-LEVEL GROUP TO PROVIDE RECOMMENDATIONS ON A SERIES OF POLICY ISSUES WHICH HAVE ARISEN IN THE COURSE OF ICAO'S WORK ON A MARKET-BASED MEASURE (MBM) SCHEME. WHY IS THIS IMPORTANT?

JH: It's important that we continue to move forward and work toward as much consensus as possible on this key issue [MBM] before the next Assembly. We have common global environmental aspirational goals; MBMs are part of the elements that can be used to meet those goals. These can be cost-effective measures to address aviation emissions. It's the 'how' and 'when' to introduce such measures that we are looking at. So that's the importance of the high-level group. If they can discuss differences and, where they exist, discuss the possibilities of bridging those gaps, and agree on areas where consensus is possible before the Assembly, we can then focus our attention only on those outstanding issues that require further agreement or further elaboration. It's a means of facilitating the debate that we expect to take place at the next Assembly before the Assembly actually happens, so that we can pave the way for the best possible outcome.

BY THE END OF FEBRUARY 2013, 59 STATES' ACTION PLANS ON CO₂ EMISSION REDUCTION ACTIVITIES COVERING 77.4 PER CENT OF GLOBAL INTERNATIONAL AIR TRAFFIC HAVE ALREADY BEEN SUBMITTED TO ICAO. HOW WOULD YOU EXPLAIN THIS SUCCESS?

JH: This is an initiative which has special significance for me in many ways. It's something the Organization believes in very much even though, at the outset, many were skeptical. I've seen substantive environmental progress in the many different areas (e.g. technology, operations) in the actions already being undertaken by our Member States and, until now, ICAO was not fully able to showcase that progress and good work.

It's also important as it provides ICAO with the opportunity to facilitate capacity building and deliver assistance to those States which are willing to progress. Before the State Action Plans (SAPs), we did not have an agreed approach in this area. We were more focused on standard – setting and policy-setting. The Action Plans were a way for us to connect more directly with our Member States to deliver concrete actions to reduce aviation emissions.

We have also involved our regional offices in this process. They are completely engaged, working together with States in the regions to advance environmental protection in aviation.

Perhaps the most important element in the Action Plans is engagement. Everyone has to be engaged and that's the key to our success. We are now looking at facilitating action by States with lower levels of aviation activity by bringing them together in a region and creating an Action Plan for the group of States. We are really pleased with the results to date and it bodes very well for the future.

WHAT'S YOUR OUTLOOK ON THE UPCOMING ICAO ASSEMBLY IN SEPTEMBER 2013?

JH: We will have more information on noise, air quality, and of course on climate change and, in this area, there is still a lot of work to be done between now and the Assembly to get more consensus on what is the best path forward.

In this regard, the ICAO Symposium on Aviation and Climate Change, "Destination Green", which will be held in Montréal from 14 to 16 May, will help inform and foster a dialogue amongst participants on environment and aviation to facilitate the high-level decision-making process leading to the next Assembly.

We hope to get a roadmap from the Assembly which will enable us to continue to develop and build on our progress and success. A roadmap that says, 'here's the direction and policy that will facilitate this organization to fulfill its mandate in achieving the goals that we have set for international aviation and the environment.' ■

“Perhaps the most important element in the Action Plans is engagement. Everyone has to be engaged and that's the key to our success. We are now looking at facilitating States with lower levels of aviation activity by bringing them together in a region and creating an Action Plan for the group of States.”



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STATE ACTION PLANS AIM TO REDUCE CO₂ EMISSIONS FROM INTERNATIONAL AVIATION

 An agreement reached by the 37th Session of the ICAO Assembly in October 2010 established a new benchmark for ICAO's objective relative to aviation and climate change. It provides a roadmap for action through 2050 for the 191 Member States of the Organization and invites them to voluntarily develop and submit national Action Plans to reduce CO₂ emissions from international civil aviation.

"The success of each Action Plan relies first on the collaboration with different stakeholders: aviation and environmental authorities, airlines and airports, Air Navigation Service Providers, statistics departments, fuel providers and so on, and then in collecting information from them," said Jane Hupe, ICAO's Chief, Environment Branch. "When you have all the stakeholders around the table you can ensure stronger action initiatives and as the various synergies between the different plans become apparent it helps create momentum. That's the reason for the success of Action Plans."

Action Plans create the possibility of partnerships, cooperative capacity building, technology transfer, and assistance. States are seeing the value in doing that and are becoming more and more engaged. Not only are States on board, but many funding organizations are becoming engaged as well, creating potential funding for climate change and the aviation sector.

"We had basically two years since the last Assembly to get this initiative up and running: to prepare guidance, to train States, to identify focal points," added Hupe. "States have responded rapidly and are now developing their Plans. We are looking now into ways of facilitating access to funding and at further means of improving the Plans. I think this initiative will be instrumental in achieving our environmental goals."

WHAT ARE ACTION PLANS?

Action Plans are a practical means for States to communicate information to ICAO on their activities to address CO₂ emissions from international civil aviation. The level of detail contained in an Action Plan best demonstrates its potential effectiveness and will ultimately enable ICAO to measure global progress towards meeting the collective goals set by Assembly Resolution A37-19.

CANADA: TAKING OFF IN CLEANER SKIES WITH AN ACTION PLAN TO REDUCE GREENHOUSE GAS EMISSIONS

The Government of Canada and its partners in the air industry are working together to reduce the impact that greenhouse gas emissions from aviation have on our environment.

In March 2010, Canada formed the Working Group on Aviation Emissions, a joint collaboration between government and representatives from all segments of Canadian aviation, including air carriers, airports, business aviation, air traffic management, and aerospace manufacturers, to develop a successor agreement to the world's first voluntary agreement signed in 2005 between the Government and the Air Transport Association of Canada. It set a goal to improve fuel efficiency, on average, by 1.1 per cent a year from 1990 to 2012 for a cumulative improvement of 24 per cent over this period.

The result of this collaboration was demonstrated in a report released in January 2013. It revealed that Canada's air carriers surpassed their goal, improving fuel efficiency by 1.7 per cent a year on average, between 1990 and 2011, for a cumulative improvement of 30 per cent.

The Working Group identified three factors with the greatest potential to measurably improve fuel efficiency: 1) fleet renewal; 2) more efficient air operations; and 3) improved air traffic management. Industry stakeholders estimated how much each factor could contribute to improved fuel efficiency and used the aggregate of these estimates to set a goal of improving fuel efficiency by 2 per cent per year, on average, to 2020 – from a 2005 baseline.

Other areas were also identified where industry cooperation might help further reduce emissions. To address these, the Working Group created subgroups to identify and advance efforts in five areas: performance-based navigation; surveillance; auxiliary power units and ground support equipment; taxiing; and alternative fuels.

All of these initiatives fed into *Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation*, which was released in 2012. It includes other potential areas for improving fuel savings: aviation environmental research and development; airport ground operations and infrastructure; regulatory measures; and international coordination. However, assessing the impact of these factors will require further work.

The Plan is a living document that will evolve through several initiatives: semi-annual meetings of the Working Group; annual reports; a review of the Plan in its third year; and an audit that will occur at least once over the next five years.

Having all segments of Canada's aviation sector participate in development of the Plan was crucial, and demonstrates the Government of Canada's long-standing commitment to actively engage with Canadian aviation stakeholders.

- Transport Canada

Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation is available at www.tc.gc.ca/aviation-emissions



Government of Canada and Canadian aviation officials at the 2012 release of Canada's Action Plan. From left to right: Lucie Boily - Aerospace Industries Association of Canada, George Petsikas - National Airlines Council of Canada, the Honourable Peter Kent, the Honourable Steven Fletcher, John McKenna - ATAC, Sam Barone - Canadian Business Aviation Association, John W. Crichton - NAV CANADA and Daniel-Robert Gooch - Canadian Airports Council.

EUROPEAN STATES: ACTING TOGETHER TO UNDERTAKE A COMPREHENSIVE APPROACH TO REDUCE THE REGION'S EMISSIONS

In the complex matter of mitigating aviation's emissions, the preparation of Action Plans has been one of the most positive of ECAC's experiences of working with ICAO.

The European States have been particularly active in this area, something which reflects the very high priority placed within the region on the mitigation of CO₂ emissions from international aviation. Soon after the last Assembly, the Directors General of Civil Aviation of the ECAC States committed themselves to engage fully in the submission of European Action Plans by the deadline, and to go beyond the requirement in the ICAO Resolution by aiming at the submission of Action Plans regardless of the threshold of one per cent total Revenue Tonne Kilometres (RTK) envisaged in the Resolution. The Aviation and Climate Change Action Plans Expert Group (ACCAPEG) was quickly established under the co-chairmanship of the European Commission (for ECAC) and Switzerland, with a view to ensuring a consistent European approach to the delivery of Action Plans and reporting requirements. This was necessary, given the specific European situation where some of the mitigation actions are taken at the national level and others at the supra-national/ regional level, the latter led typically by the European Union.

The complexity of the European situation lies in the mitigating measures having different scopes of application. This reflects the priorities and circumstances of each State, according to its economic situation, the size of its aviation market, and its historical and institutional context. The ECAC States are thus involved to different degrees and on different timelines in the delivery of these common actions. Nonetheless, acting together, they have undertaken to reduce the region's emissions through a comprehensive approach, as described in the common section of European Action Plans, developed within ACCAPEG. It illustrates the broad use by Europe of a basket of measures, with:

- aircraft related technology developments, including research and development, the European advanced biofuels flightpath, etc.
- improved air traffic management and infrastructure use, including the EU's Single European Sky initiative, SESAR,

and the Atlantic Interoperability Initiative to Reduce Emissions (AIRE),

- the EU Emission Trading Scheme,
- support to voluntary actions, for example the ACI/Europe *Airport Carbon Accreditation* scheme, endorsed by the ECAC States in 2009.

In several European States, the preparation of the Action Plan was undertaken in close collaboration with stakeholders, who saw in this exercise a valuable opportunity to give visibility to actions which they were already taking, on a voluntary basis, targeted, for example, at optimizing operational efficiency.

This process resulted in the submission of the first European Action Plans in October 2011, well before the deadline of 30 June 2012. By the time that deadline arrived, thirty-five European plans had been submitted, despite only nine European States being above the threshold set in the ICAO Resolution. This was possible thanks to the exceptional commitment by the European States, some of which had recruited or dedicated staff for the purpose of preparing their Action Plan.

Looking back, the early steps taken by the ICAO Secretariat to provide guidance material in a collaborative manner was an extremely strong and positive signal, which helped encourage the European States to engage fully in the Action Plan process. The scheduling of a series of hands-on regional workshops, including feedback from other Regions, maintained the momentum right up to the submission deadline. The whole process has very much reinforced the credibility and broadened the scope of the Action Plans, and has therefore very much strengthened delivery of ICAO Resolution A37/19.



- Beatrice Adoléhomé
Environment and technical officer of ECAC
(European Civil Aviation Conference)

INDONESIA: GREEN AVIATION INITIATIVES ON MITIGATION OF CLIMATE CHANGE AND REDUCTION OF GREEN HOUSE GAS EMISSIONS

With regard to civil aviation, the Directorate General of Civil Aviation, Ministry of Transportation, has taken several measures in line with the President of the Republic of Indonesia's commitment to actively participate in and contribute to the global initiatives of mitigation of climate change and reduction of greenhouse gas emissions as follows:

- Submission of a working paper entitled "Indonesia Action Plan on Aviation and Climate Change" at the 37th Session of the ICAO Assembly.
- Development of a State Action Plan on aviation carbon emissions with ICAO assistance during 2011-2012, involving a DGCA Indonesia Working Group and extensive communication with, and guidance by, the ICAO Environment Branch.

- Delivery of Indonesia's "State Action Plan 2012-2020" for international flights, to ICAO in June 2012, including a National Action Plan for reduction of domestic flight carbon emissions initiatives.
- Hosting the International Aviation Climate Change Seminar, August 2010 in Jakarta.
- Announcement on 20 March 2013 of a Project on Assistance in Environmental Matters Relating to Civil Aviation, to be undertaken jointly with ICAO as a Technical Cooperation Project on January 2014. The purpose of the project is to implement action for the reduction of greenhouse gas emissions resulting from civil aviation and includes development a system of related governmental oversight.

The development of the State Action Plan 2012-2020 for the air transport sector commenced in early 2011 through a series of programmes and measures including: inventory of rules, regulations procedures, manuals and guidelines; collection of data; improved capacity building; formulation of robust policies and development of a matrix formulation considering all information in detailed description.

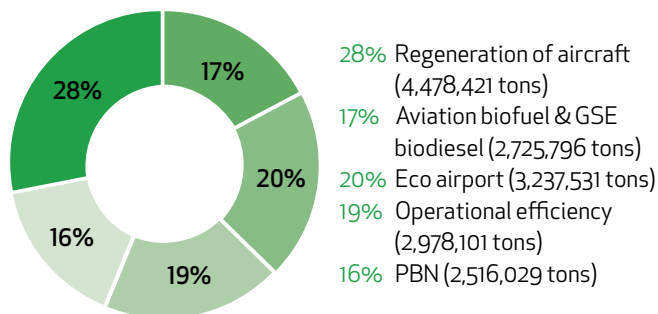
The "Indonesia Green Aviation Initiatives on Mitigation of Climate Change and Reduction of Green House Gas Emissions" includes three focus areas namely: Green Flight; Green Airspace/Corridors; and Green/Eco Airports, with further division into six pillar initiatives:

1. Continuous improvement of the organization, policy, regulations, standardization and guidelines, as appropriate, regarding the environment and development of programmes for human resource capacity building;
2. Aircraft modernization initiatives, using next generation technology aircraft with more efficient fuel burn characteristics, lower exhaust gas emissions, and quieter operation;
3. Initiative on improvement of aircraft and airport facilities' operational efficiencies;
4. Initiative on enhanced development of Air Traffic Management (ATM) and implementation of Performance based Navigation (PBN);
5. Initiative on substitution of fossil-based fuels with sustainable alternative fuels (aviation biofuel);
6. Initiative on enhanced implementation of Eco-airport principles, including renewable energy and biodiesel application for ground support equipment.

The estimated total emissions for the air transport sector, without policy intervention, in the period 2009-2020, amounted to 148.1 million tons CO₂, while the total carbon emissions (CO₂) reduction achieved through the State Action Plan (domestic and international flights) programme initiatives, during the period 2012-2020 amounted to 15.9 million tons of CO₂ or approximately 10.75 per cent of the cumulative emissions. The potential carbon emissions reduction for international flights up until 2020 is 3.142 million tons CO₂.

In accordance with the State Action Plan initiative, it is considered that future cooperation on assistance and support from ICAO and/or other Member States will continue to be fundamental, especially regarding capacity building and transfer of technology.

Carbon (CO₂) Reduction Emissions Indonesian State Action Plans



- Yusfandri Gona
 Yusfandri Gona joined DGCA Indonesia in 1988 and is the Indonesia Focal Point for State Action Plans and Indonesia Negotiator Team Members for UNFCCC (since 2011), and ICAO CAEP Observer for Indonesia (since 2012).

UAE: MEETING THE EXPECTATIONS OF THE GLOBAL AVIATION ENVIRONMENT COMMUNITY AND LEADING REGIONAL INITIATIVES

United Arab Emirates' General Civil Aviation Authority has been in the forefront of environmental initiatives. However, States and industry organizations shared a consensus that the civil aviation sector needed to demonstrate strong leadership by producing concrete and meaningful results.

For its part, UAE is in a prominent position to showcase progress in this field. In May 2012,

HE Sultan Bin Saeed Al Mansouri, Minister of Economy and Chairman of the General Civil Aviation Authority (GCAA), approved an Environmental Policy for the civil aviation sector. This was done with the consensus of all local authorities that formed the civil aviation sector. This policy reaffirms the role of ICAO in leading efforts to reduce the impact of emissions of civil aviation and climate change.

In this context, the UAE has worked tirelessly to elaborate an Action Plan. Thanks to the UAE GCAA, the strong support received from UAE local governments and significant contributions from industry stakeholders and the ICAO Secretariat, the UAE was able to submit the first version of its Action Plan to ICAO in June 2012 prepared by the State Action Plan (SAP) ad hoc group. UAE sees the initiative to develop SAPs as a milestone in the annals of ICAO, as it is an effective tool that encourages Member States to proactively engage in addressing aviation's carbon footprint. As a game changer, State Action Plans facilitate international participation and seek to achieve a sustainable and brighter future for global civil aviation. However the preparation of a State Action Plan itself can be challenging as the UAE's experience demonstrates.

In 2011, the main challenges with respect to developing an SAP in UAE revolved around generating awareness of the local authorities' environmental management and building their engagement and their support for the State Action Plan project. There was a need to provide significant resources by all aviation sectors. And, as part of the awareness, all needed to understand that, in the future, this initiative would require the establishment of plans to manage, administer and

implement the monitoring and reporting processes and ensure the ongoing validity of the SAPs through regular reviews. In addition, there was a significant challenge in terms of the availability of financial support.

However, the following year witnessed the formation of the ad-hoc group under the Aviation Environment Working Group (AEWG), as UAE wanted to meet the deadline set by ICAO (June 2012) and to lead the region in such an initiative. There were also challenges related to the selection of an external consultant. Finding the right expertise to work with the local aviation sector to provide the required work was not an easy task. However, UAE GCAA overcame this obstacle and might be able to submit a second version to ICAO by mid-2013.

Today, UAE is determined to meet the expectations of the global aviation environment community and to lead regional initiatives in this regard with strong cooperation with ICAO.



- Maryam Al-Balooshi
Environmental Manager, General
Civil Aviation Authority (GCAA) of
United Arab Emirates.

UGANDA: TAKING IMPORTANT STEPS TOWARD DEVELOPING A CO₂ EMISSIONS REDUCTION PLAN

The development of Uganda's initiatives followed the ICAO regional training workshop on the preparation and submission of States' Action Plans on CO₂ emissions reduction held in Nairobi at the ICAO Regional Office. The workshop built upon resolution A37-19 of the ICAO Assembly inviting States to voluntarily prepare and submit their Action Plan by June 2012.

The resulting Action Plan was designed to generate several benefits. For example, it was now possible for the Uganda Civil Aviation Authority (UCAA) to communicate the national efforts taken to reduce aviation emissions and protect the environment. The fact that ICAO invited its States to report on international aviation CO₂ emissions reduction activities in their Action Plan also helped Uganda to realize that the country had a lot of data that could be collected from domestic flights.

In addition, many of the mitigation measures were already in place, though not communicated. Most of these measures were in air traffic management and airport operations. Some time and effort was required to review the available procedures and single out those that were actually leading to a reduction in fuel burn, both on the ground and in flight, and subsequently communicate them. These procedures included: the start up after push back procedure; ATC pre-departure instructions; regional PBN routes implemented; regional Reduced Vertical Separation Minimum (RVSM) implementation and operational

Global Navigation Satellite Systems (GNSS) procedures (which are operating on a trial basis).

It should be noted that for all these procedures, there is currently no data available to clearly support the environmental gains or fuel savings arising from their implementation. This has been largely due to lack of policy and technical capacity to conduct environmental assessments for these procedures. In this respect, the IFSET tool which has been provided by ICAO, will be particularly useful in collecting data on ATM operational improvements.

The second ICAO training workshop at the ICAO Regional Office Dakar in September 2012 provided more hands-on experience on the collection, analysis and reporting of data using the web-based tool.

Another challenge is the lack of policy and regulatory framework requiring operators to communicate fuel savings measures taken to reduce emissions to the UCAA. Much of the reporting currently taking place is voluntary.

Ideally, environmental assessments should be completed for all projects, so that the environmental benefits can be communicated and tracked at the national level. There is also a need to amend the UCAA regulations to enforce the requirements of Annex 16 so as to ease and facilitate the collection of data.

Although in Uganda the current level of aviation sector activity is low, statistics indicate a growth trend and therefore an increasing need to take measures to reduce emissions. While we have made some positive steps in this direction, there is still much to be done in the collection of emission data, analysis and reporting.



- Wanjala Daniel
Senior Air Traffic Management Inspector,
Uganda Civil Aviation Authority.

VENEZUELA: THE REDUCTION OF CO₂ CIVIL AVIATION EMISSIONS REFLECTS AN ETHICAL-MORAL COMMITMENT

The Bolivarian Republic of Venezuela elaborated its first State Action Plan to mitigate international civil aviation greenhouse gas emissions in order to contribute to the sustainable development of international civil aviation.

The plan, presented on June 2012 was developed in response to Assembly Resolution No.A37-19: "Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change", reached during the 37th Session of the ICAO Assembly.

The National Institute of Civil Aviation (INAC) established and coordinated a working group responsible for the development and finalization of the Action Plan. This process built upon the results of a series of workshops among the various sub-offices of the Venezuelan civil aviation authority working on environmental issues: International Relations Office, Aviation Safety & Security Department, Air Navigation Services, Legal Advice Office and Air Transport Department. At the same time, an inter-institutional initiative among several Ministries of the



Executive power – petroleum, mines, electric energy, environment and foreign affairs – was implemented to give continuity to existing or current governmental policies.

The work of this multidisciplinary group was continually overseen by ICAO, which also showed leadership by providing the necessary guidance and support material through the Environment Branch and the Regional Office for the South American (SAM) Region in Lima, Peru.

The commitments made by the Venezuelan State in relation to environmental protection were assessed, without prejudice of national interests regarding sustainable development. Data related to the calculation of the environmental impact caused by greenhouse gas emissions from Venezuelan airlines' international operations during the period 2000-2011 was consolidated. Based on such previous assessments, the Action Plan was elaborated under the ICAO Assembly Resolution.

The Venezuelan Action Plan outlines mitigation measures – currently underway – to reduce the environmental impact in several areas involving operational actions to enhance efficiency of air navigation services and fleet modernization, among other initiatives. It also includes the use of JET A-1 fuel, produced domestically, whose high quality makes it less polluting than any other aircraft fuel.


The Venezuelan State has adopted an environmental, eco-friendly and protective policy, which is stated through the guidelines issued by the Ministry of the Popular Power for Aquatic and Air Transport (MPPTAA). INAC falls under the auspices of this Ministry and thus INAC is the authority responsible for the oversight and fulfillment of national and international aeronautical legislation.

The creation of MPPTAA, at the end of 2011, has improved and strengthened Venezuela within the civil aviation field and has made possible the application of effective strategies intended to result in a less polluted environment, as well as one conducive to the integral development of all countries. ■



President of INAC, DG. Francisco José Paz-Fleitas (right), submits the Venezuelan Action Plan for the reduction of CO₂ emissions to ICAO Secretary General Raymond Benjamin.

TOWARDS QUIETER SKIES AND GREENER AIRCRAFT

 The Ninth Meeting of the Committee on Aviation Environmental protection (CAEP/9) was held at ICAO headquarters in Montréal from 4 to 15 February 2013. The meeting was attended by 191 participants, representing 22 Member States and 15 observer States and organizations. This meeting marked the culmination of three intense years of activity by the CAEP working groups in aircraft noise, operations and emissions that involved more than 400 experts from different States and organizations around the world.

The CAEP/9 meeting agreed on a comprehensive set of 18 recommendations, based on the work of the technical experts in CAEP that will help ICAO to fulfil its mandate on aviation environmental protection. Key recommendations include an agreement on a new aircraft noise standard; an updated set of technology goals for aircraft noise; a set of aspirational operational goals for fuel burn reduction; issues regarding the progress in the developments of the new ICAO CO₂ standard; and the establishment of priorities and a work programme for the next CAEP/10 work cycle (2013-2016).

A NEW NOISE STANDARD FOR JET AND TURBOPROP AIRCRAFT

The primary purpose of noise certification is to ensure that the latest available noise reduction technology is incorporated into aircraft designs, and that the noise reductions offered by these technologies are reflected in real reductions in aircraft noise around airports.

ABOUT CAEP

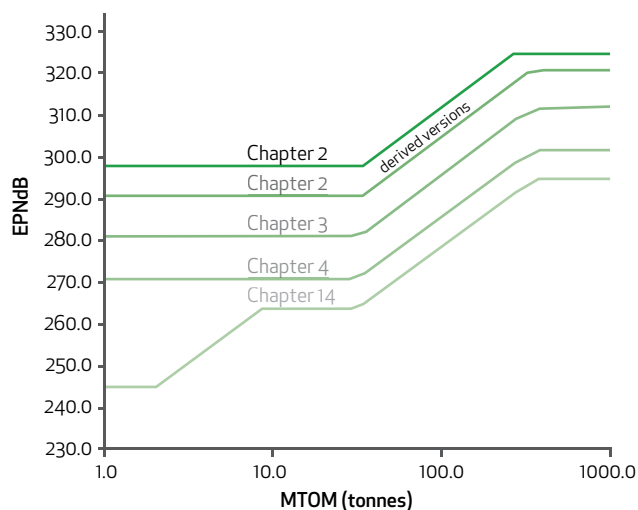
The Committee on Aviation Environmental Protection (CAEP) is a technical committee of the ICAO Council and the international expertise forum for the study and development of proposals to minimize aviation's effects on the environment. CAEP was established in 1983, superseding the Committee on Aircraft Noise and the Committee on Aircraft Engine Emissions. It is composed of 23 Members from all Regions of the world and 16 Observers (key aviation stakeholders and environmental NGOs). Approximately 400 internationally-renowned experts are involved in the CAEP's activities and all of its proposals are assessed on the basis of four criteria: technical feasibility; environmental benefit; economic reasonableness; and interrelationships (e.g. if measures to minimize noise are likely to increase emissions). CAEP is the only technical committee of the ICAO Council. The Council reviews and adopts CAEP's recommendations, including Annex 16 Standards and Recommended Practices, and in turn reports to the ICAO Assembly (191 States plus international organizations) where the main policies on environmental protection are ultimately defined.



Ninth Meeting of the Committee on Aviation Environmental Protection (CAEP/9) Members and Observers.

¹ The EPNdB is a measure of human annoyance due to aircraft noise, taking into account the perceived noise level and duration.

Overview of Annex 16, Vol. I Noise Standards, including the new CAEP/9 agreed Chapter 14 limit line



Chapter 2, CAN 1973
Chapter 3, CAN 1977

Chapter 4, CAEP/5-2001
Chapter 14, CAEP/9-2013

The CAEP continued to pursue this goal by agreeing on a new noise stringency that is 7 EPNdB below the current ICAO Annex 16, Volume I Chapter 4 noise standard. As a new Chapter 14, it will come into force for new-design aircraft from the end of 2017. For new aircraft below 55 tonnes the standard will be applicable after the end of 2020, and this intends to account for the delay observed in the availability of the latest technologies for lower weight aircraft compared to heavier types. Also introduced as part of the new noise standard is a lower noise limit applicable to subsonic jet airplanes with take-off masses below 8,618kg.

The decision on the new noise standard is the result of a significant data driven exercise, including three rounds of cost-benefit modelling which analyzed potential noise stringency options at minus 3, 5, 7, 9, and 11 EPNdB relative to the Chapter 4 standard. For each option, the technical feasibility, costs and environmental benefits were considered.

As a result of the new Chapter 14 noise standard it is expected that the number of people affected by significant aircraft noise will be reduced. Analysis conducted by the CAEP during the noise stringency analysis has shown that over one million people could be removed from Day/Night average sound Level (DNL) 55 dB affected areas between 2020 and 2036.

A NEW NOISE STANDARD FOR TILT-ROTOR AIRCRAFT

In anticipation of civil Tilt-rotor production, the CAEP agreed to turn current guidance material (Annex 16, Attachment F) on the noise certification of Tilt-Rotor aircraft into a standard (as a new Chapter 13). The new standard uses the same noise limits as used for helicopters in Annex 16, Chapter 8, Paragraph 8.4.1. The CAEP consulted on noise, airworthiness, operations and legal issues

"By achieving this new unanimous agreement through the CAEP, ICAO is continuing to demonstrate its commitment to establishing effective consensus on CO₂ progress for global aviation. We are now looking to the CAEP's wide cross-section of air transport experts to get to work on the last agreements needed to realize the aircraft CO₂ standard, namely its stringency and scope of applicability."

ICAO Council President, Roberto Kobeh González

"This new noise standard is an important step for aviation and will provide a much quieter environment for the communities living in proximity to the world's airports. ICAO is encouraged that while it took air transport more than 20 years to agree to the last significant noise reduction standard, this one has been determined in less than half that time. This progress confirms our community's continued determination to deliver on tangible and consensus-based environmental improvements."

ICAO Secretary General, Raymond Benjamin

"Air transport is already 75 per cent quieter than it was four decades ago and the industry will continuously pursue cost-effective noise management options to reduce the number of people subject to aircraft noise, in line with our broader global commitments on sustainability and environmental performance."

IATA's Director General, Tony Tyler

"Federal Aviation Administration statistics demonstrate that we have reduced the number of people exposed to significant levels of aircraft noise in the United States by more than 90 per cent since the late 1970s, even as we have tripled enplanements. CAEP's recommendation of this new standard, which is even more stringent than the cost-effectiveness analysis supported, will bring further, significant noise reductions from the next generation of aircraft."

Vice President Environmental Affairs for Airlines for America, Nancy Young

"The CAEP Working Group realized that a seven-decibel reduction would be more difficult to achieve for manufacturers of smaller aircraft, and that more time would be needed for compliance. That's why they have three more years for research, development and testing, to ensure they can meet the standard while maintaining the high levels of quality that are the hallmarks of the general aviation industry."

President of the National Business Aviation Association (NBA), Ed Bolen

before making a comprehensive decision to form the standard and recommending that consideration be given to Tilt-rotor provisions in Personal Licensing, Nationality and Registration Marks, Airworthiness and Operations Annexes.



The CAEP agreed to turn current guidance material on the noise certification of Tilt-Rotor aircraft into a standard.

AGREEMENT ON MEDIUM AND LONG-TERM NOVEL AIRCRAFT NOISE TECHNOLOGY REDUCTION GOALS

The CAEP agreed on an updated set of medium- (2020) and (2030) long-term novel aircraft noise technology reduction goals. The goals are the result of an extensive review performed by an Independent Expert Panel during the CAEP/9 cycle. The review assessed the possibility of noise reduction from each technology, and commented on the environmental efficiency, and other economic trade-offs resulting from adopting the candidate technologies. This includes goals for turboprop, turbofan and novel aircraft concepts.

The noise technology goals and full independent expert review will be published by ICAO in the coming year.

Long-Term (2030) Cumulative Noise Margin Goals Relative to Chapter 4

Aircraft Category	Long-term Noise Goal
Regional Jet (RJ) 40 tonnes (nominal) 50 tonnes (max)	21.5±4 17±4
Short Medium Range Twin (SMR2) Turbofans: 78 tonnes (nominal) 98 tonnes (max) CROR: 78 tonnes (nominal) 91 tonnes (max)	30±4 26.5±4 13.5+2/-6 10.5+2/-6
Long Range Twin (LR2) 230 tonnes (nominal) 290 tonnes (max)	28±4 24.5±4
Long Range Quad (LR4) 440 tonnes (nominal) 550 tonnes (max)	27±4 20.5±4

OPERATIONS

Recognizing that an effective way to reduce emissions is to minimize the amount of fuel used in operating each flight, CAEP/9 recommended the publication of a new “ICAO Manual on operational opportunities to reduce fuel burn and emissions.” The manual contains information on current practices that are followed by States, aircraft and airport operators, air navigation service providers and other industry organizations. It features specific chapters on maintenance, weight reduction, payload air traffic management, route planning, and aircraft operations. The manual updates and replaces the ICAO circular 303 (Operational Opportunities to Minimize Fuel Burn and Reduce Emissions) that was published in 2004.

In addition, CAEP/9 approved and recommended for publication a new guidance document on environmental assessment of air traffic management operational changes. The manual contains detailed information on how to conduct an environmental assessment related to proposed changes in operational procedures, redesigning of airspace and other operational aspects: from the preparation phase to the actual drafting steps, through the consideration of interdependencies and trade-off between noise and emission impacts. It also contains multiple appendixes with examples that can serve as useful resources for the reader.

CAEP/9 also considered the Independent Expert review on operational goals, which developed challenging and aspirational operational environmental goals. CAEP agreed to publish the fuel burn operational goals, which will be included in future CAEP environmental trends analysis as a new scenario. Fuel burn operational goals are expressed in terms of percentage of fuel usage and emissions reductions compared to a 2010 baseline that can be achieved by new operational practices assuming new technology investments and changes in policies.

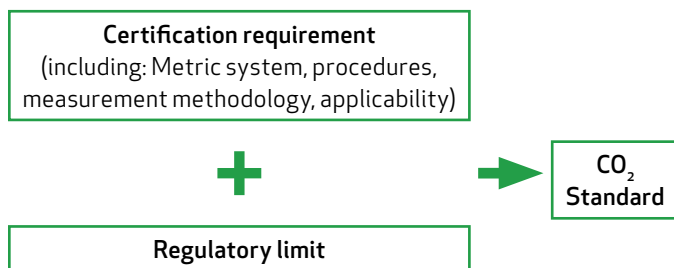
	2020	2030	2040
Fuel burn operational goals	3.25%	6.75%	9.00%

AIRCRAFT ENGINE EMISSIONS

The Development of an ICAO Aircraft CO₂ Emissions Standard

The CAEP is currently focussed on developing an Aircraft CO₂ Emissions standard which was a recommendation from the ICAO Programme of Action on International Aviation and Climate Change, as part of a set of measures to reduce greenhouse gas emissions from the air transport system. Subsequently in October 2010 the 37th Assembly (Resolution A37-19) requested the development of an ICAO CO₂ Emissions standard. The development of the ICAO CO₂ standard will result in a new Annex 16, Volume III to the Chicago Convention.

The work towards the ICAO CO₂ standard aims at developing an aircraft-based standard to reduce aircraft CO₂ emissions by encouraging the integration of fuel efficient technologies into aircraft design and development.



The first important milestone in the development of the CO₂ standard was reached on 11 July 2012, when the CAEP steering Group reached a unanimous agreement on a CO₂ metric system to measure the aircraft fuel burn performance and therefore the CO₂ emissions produced. The intent of the CO₂ metric system is to equitably reward advances in aircraft technologies (i.e. structural, propulsion and aerodynamic) which contribute to reductions in aircraft CO₂ emissions, and differentiate between aircraft with different generations of these technologies. As well as accommodating the full range of technologies and designs which manufacturers can employ to reduce CO₂ emissions, the CO₂ metric system has been designed to be common across different aircraft categories, regardless of aircraft purpose or capability.

Based on this CO₂ metric system, the CAEP developed the procedures and measurement methodologies which will form the important components of the Annex 16, Volume III certification requirement. At the CAEP/9 meeting the mature Annex 16 Volume III certification requirement was approved and it was decided that it would be published in an ICAO Circular to communicate the significant progress made. This will be published following the Council session in June 2013.

The complexity of the CO₂ standard work has been significant both from a technical and political perspective. This was demonstrated by the number of international experts involved which has been approximately 150, more than double of any other CAEP group. The commercial sensitivity associated with this topic, and the technical challenges encountered, resulted in a postponement of the delivery date for the full CO₂ standard, originally intended for 2013. To move forward and to build on the significant progress made, the CAEP reviewed a comprehensive CO₂ standard setting work plan and agreed on a late-2015 deliverable date, in time for approval by CAEP/10 in 2016.

Leading up to 2016, the work will focus on the standard-setting process where, on the basis of the agreed certification requirement and a data driven environmental cost-benefit analysis, a regulatory level and scope of applicability will be established. This will follow the ICAO criteria of technical feasibility, environmental benefit, cost effectiveness and the impacts of interdependencies.

Progress on a Particulate Matter Standard

Since the 1970s, ICAO has set standards for emissions that affect local air quality, including carbon monoxide (CO), oxides of nitrogen (NO_x), and unburned hydrocarbons (HC). In an effort to address concerns regarding visible smoke from the exhaust plume from jet aircraft,

standards for Smoke Number (SN) were also established. The visible smoke is made up of particles of varying size, known as particulate matter (PM). While today, visible smoke from modern aircraft is nearly non-existent, as a result of intensive research, the science regarding the formation of PM and its effects on human health and local air quality is maturing. The CAEP worked with the SAE International Aircraft Exhaust Emissions Measurement Committee (E-31) to test a non-volatile PM (nvPM) sampling system used to measure soot (also called black carbon) behind aircraft engines. SAE International has a long history of serving in a complementary role to that of CAEP by addressing technical aspects related to measurement techniques that support the ICAO standards-setting process. Results from seven test campaigns led to a major breakthrough for SAE E-31 to define the process for sampling and measuring nvPM from aircraft engines.

It was reported to the CAEP that research studies have shown that the size distribution of nvPM emitted by modern aircraft gas turbine engines and measured with the SAE E-31 specified system exhibit a log normal distribution that peaks normally between 15nm – 40nm, depending on engine power and engine technology and that few solid particles below 10nm can be expected. During the development of the draft ARP system for the measurement of nvPM mass and number from aircraft gas turbine engines, it has been determined that it is technically feasible to measure particle sizes in this range and this capability has been included in the instrument specifications.

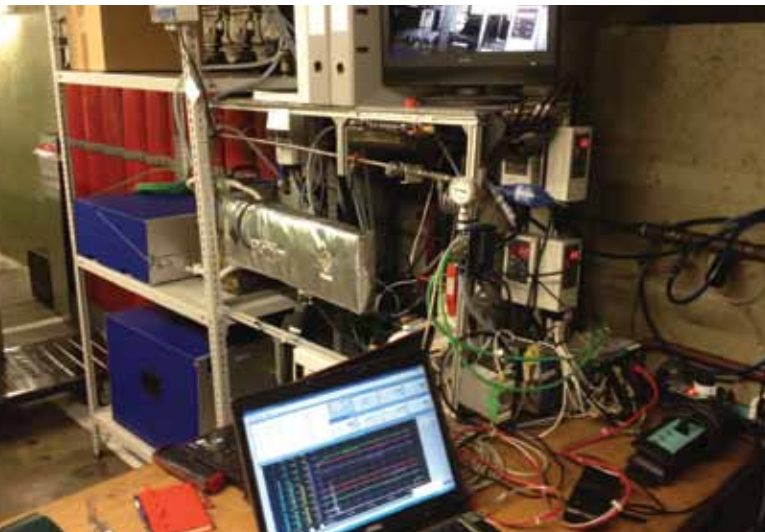
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Number and Mass Instrumentation

The existence of these smaller particles explains the complexity of the system needed to measure them and the need for devoted facilities, funding and resources necessary to complete this work. Additional full scale testing is needed for engines of all sizes, yet insufficient funding has prevented these tests from being conducted. Nevertheless, measurement campaigns and finalization of the ARP by the SAE Committee will continue as a prelude to the nvPM emissions certification requirement and new ICAO Standard. CAEP was also informed that significant research progress is advancing the understanding of volatile PM (nvPM that evolves and disperses from the engine).

MODELLING AND ECONOMICS

ICAO strives to provide its Member States with the best available information to support sound decision-making. Future projections of aircraft noise and emissions are developed by CAEP to support the development of new standards and policies for the Organization. Leading to the CAEP/9 meeting, the CAEP Forecast and Economic

Analysis Support Group (FESG) completed the development of new traffic and fleet forecasts. The forecasts build upon the forecasts developed by ICAO and other organizations through a peer review, consensus-based process that considers the input of a broad range of stakeholders. While the ICAO Secretariat generates forecasts of future air traffic that serve most of the activities of the Organization, for the purposes of the environmental technology standards-setting process, additional information is needed. The expansion of the ICAO traffic forecast by CAEP to include a fleet forecast, including for small aircraft of less than 20 seats, and the associated aircraft retirement curves are critical elements of the related analyses.

The CAEP/9 meeting recommended that the forecast be used as the basis for all environmental analyses undertaken during the CAEP/10 cycle. In particular, the updated forecast will support the analysis of stringency options for the new CO₂ standard and will be used to generate updated trends of fuel consumption and net CO₂ emissions to inform the ICAO Assembly.

As the decisions taken, based on the trends assessments and stringency analyses, have significant implications for all stakeholders, the peer review elements of the CAEP process are essential. States and organizations provide access to multi-million dollar models such as the United States' Aviation Environmental Design Tool (AEDT) for noise and emissions, EUROCONTROL's Advanced Emission Model (AEM) for emissions, Manchester Metropolitan University's Future Civil Aviation Scenario Software Tool (FAST), and EUROCONTROL's SysTem for AirPort noise Exposure Studies (STAPES) for noise, to CAEP to carry out the studies.

CONCLUSION

ICAO has set three environmental goals for international aviation related to reducing the number of people exposed to significant aircraft noise as well as reducing the impact of aviation emissions on global climate and local air quality. The excellent results of the CAEP/9 meeting represent further steps towards achieving these goals, and continue to demonstrate the strong determination of the international community to deliver comprehensive environmental solutions for the aviation sector.

Over the next three years CAEP efforts will continue to be focused on emissions, noise and operations, including the completion of the CO₂ standard and the further development of a PM Standard. ■

CAEP pioneered the use of sustainable management practices within ICAO as it was the first Committee to adopt a paperless environment for its meetings. The CAEP/9 documentation counted 60 working papers for a total of 1,028 pages in addition to 29 information papers for another 1,661 pages, amounting to 2,689 pages. To reduce the amount of paper used, each of the 191 meeting participants received an 8GB USB card which contained the CAEP/9 meeting and background documentation on aviation and the environment.

State profile



Cameroon



AT THE HEART OF AFRICA: CAMEROON, AFRICA IN MINIATURE

- The biggest Economy in Central African Sub-Region
- One of the highest GDPs in Sub-Saharan Africa
- FCFA 800 billion invested in aviation infrastructure
- Political Stability



HE Paul Biya, President of the Republic of Cameroon and the first lady Chantal Biya

CAMEROON: AT THE FOREFRONT OF CIVIL AVIATION IN CENTRAL AND WEST AFRICA

THE DYNAMIC HUB OF CENTRAL AFRICA

- At the crossroads between Central and West Africa, often referred to as “Africa in miniature”, due to its ethnic, linguistic, cultural, geographic and climatic diversity, as well as its wide range of natural resources.
- A country of 20 million inhabitants with enormous potential.
- The largest economy of the six member countries of the Economic and Monetary Community of Central Africa (CEMAC), with one of the highest GDPs in Sub-Saharan Africa.
- A dynamic population that has one of the highest rates of schooling on the continent.
- Political and economic stability: a refuge and a destination of choice for citizens of many countries in Africa and elsewhere.
- A hub in the Central African sub region, thanks to all these qualities as well as its geo-strategic location.
- In Africa, a privileged facilitator for many States from other continents.
- Ambitious Agenda: President Paul Biya and his team intend to make Cameroon an emergent country by 2035.

A BEAUTIFUL COUNTRY, VAST RESOURCES, HUGE POTENTIAL

- Cameroon’s resources emanate from agriculture and the exploitation of its natural wealth (especially forestry), its rich mineral resources, its hydrography, animal husbandry, fishing, and the services sector.
- A tourist destination as per the standards of the World Tourism Organization: Its natural beauty offers enormous potential from a tourism perspective.
- In 2010, the tourism sector accounted for 3% of the national investment budget, and this is expected to reach 13% by 2035.

CIVIL AVIATION, AN IMPORTANT PRIORITY IN CAMEROON

- The first known text regarding the existence of civil aviation in Cameroon dates back to 1932, and the first airport infrastructure construction projects were designed in 1934 for the cities of Douala, Yaoundé and Garoua.
- In 1955, Cameroon had 18 aerodromes classified in three categories, and the country ratified the Chicago Convention in 1960, its year of independence.



- In 1971, the country created the first national airline company, the now defunct Cameroon Airlines.
- Civil aviation is one of the areas in which the State of Cameroon has invested heavily, with over 800 billion FCFA (Central African Francs) in infrastructure investment.
- Today, the country has three Category A international airports, about 10 Category B airports and about 40 secondary Category C, D and E aerodromes, a national airline company and about 20 other airline companies licensed to do business in Cameroon.
- Camair-Co, the new national airline company, meets international standards regarding air transportation and it is not blacklisted in any country.

AVIATION, A RAPIDLY GROWING INDUSTRY IN CAMEROON

In a context of economic growth in Cameroon, there is also a significant increase in air transportation.

- Between 2011 and 2012, passenger traffic increased by 16%, from 899,324 to 1,047,401 passengers.
- In terms of internal flights, passenger traffic increased by 74% between 2011 and 2012.
- Similarly, aircraft movements and freight also increased sharply. Freight, in particular, increased by 481% between 2011 and 2012.

GREAT EFFORTS FOR COMPLIANCE WITH INTERNATIONAL STANDARDS

- Target: 100% compliance with ICAO standards regarding air safety and security.
- Several laws and ministerial orders have been passed modifying and complementing existing regulations and guidelines governing civil aviation.
- Creation of a national committee for civil aviation safety (Comité National de Sécurité de l'aviation civile) and a national program for civil aviation safety.
- Committees for the security of Cameroonian Airports have been set up, as well as measures to control air cargo, and for the regulation of access to restricted areas in Cameroon's airports.
- The PRSSAC project that was carried out in collaboration with the World Bank has contributed immensely to improving the level of security, especially due to the training of security agents, inspectors and auditors as well as the provision of security equipment.
- All this is done in collaboration with ICAO, whose security assessments and audits are crucial in determining what needs to be done.
- Ongoing efforts to certify the Douala and Yaoundé-Nsimalen International Airports to international standards: IATA certification of ground assistants has already been achieved, and ISAGO and ASQ certifications are in progress, in collaboration with international consulting firms.
- Implementation of programs initiated by ICAO, including: Airport Security Management System, Aeronautic Information Management, Performance-Based Navigation.



President Paul Biya and his team intend to make Cameroon an emergent country by 2035: Unity Palace (above), Yaoundé-Nsimalen International Airport and Control Tower Yaoundé-Nsimalen Airport (below)



AN ONGOING STRATEGIC PLAN FOR AIRPORTS

Five strategic thrusts:

- Modernization of infrastructure and equipment: over the past few years, a major operation to refurbish and modernize airport infrastructure and other airport equipment has been underway in Cameroon.
- Improvement of the economic and financial performance of airports.
- Implementation of a sustainable development policy.
- Improvement of services to meet international standards.
- Development of a business ethic.





Several laws and ministerial orders have been passed modifying and complementing existing regulations and guidelines governing civil aviation.



Tarmac Yaoundé-Nsimalen Airport

INTERNATIONAL COOPERATION

Besides ICAO, Cameroon maintains cooperation ties with several other countries and organizations.

- At the international and regional levels: the World Bank, ASECNA (of which Cameroon is a member), the African Civil Aviation Commission (AFCAC), the Central African Economic and Monetary Community (CEMAC), the Economic Community of Central African States (CEEAC) and the Conférence des Autorités Africaines et Malgaches de l'Aviation Civile (AAMAC).
- At the bilateral level, Cameroon has signed bilateral agreements for air services with other States, grants traffic rights to several airline companies on its territory, and uses international expertise in setting up its projects.
- Cameroon has been a member of the ICAO Council since 1992, and often provides its expertise to the organization in setting up various continental and regional projects.

CAMEROONIAN AIRLINE INDUSTRY'S PROJECTS FOR THE NEAR FUTURE

- Pursuing the liberalization of air services to build traffic among travelers who are keen to discover Cameroon as a destination.
- Upgrading aviation infrastructure and ensuring compliance with international civil aviation safety and security standards.
- Building interest among Cameroonians in civil aviation jobs.
- Creating aviation clubs to open up the Cameroonian civil aviation sector.
- Boosting domestic air travel.

CIVIL AVIATION IN CAMEROON: KEY DATES IN HISTORY

1934	Landing of the first aircraft in Cameroon.	1961	Creation of Air Afrique, a Pan-African airline, with the signature in Yaoundé of a treaty by eleven States including Cameroon.
1947	Air link is established between Cameroon and several countries of French Equatorial Africa, French West Africa, North Africa and France.	1963	Law creating the Civil Aviation Code in Cameroon with the creation of the Department of Federal Aeronautics (DACF) in the Ministry of Transport.
1953-55	Installation of the first air navigation aid structures, aviation radios and meteorological stations.	1971	Creation of Cameroon Airlines, a national air transportation company.
1955	Cameroon has 18 aerodromes classified into three categories: main aerodromes, aerodromes for small airplanes and landing strips created by logging operators.	1974	A totally Cameroonian crew pilots a Boeing 737.
1956	Cameroon is separated from the general management of the Direction Générale de l'Aviation Civile for French Equatorial Africa, and the creation of a State Service for Civil Aviation attached to the French Ministry of the Economy and Planning.	1974	Cameroon joins ASECNA (Agency for the Safety of Aerial Navigation in Africa and Madagascar).
1959	Creation of the Direction de l'Aéronautique Civile du Cameroun.	1993	New law liberalizing the air transport sector.
1960	Cameroon becomes independent and ratifies the Chicago Convention.	1994	Creation of Aéroports du Cameroun (Airports of Cameroon) (ADC), a private company responsible for managing most airports in Cameroon.
		1998	New Cameroonian law on civil aviation.
		1999	Creation of the Cameroon Civil Aviation Authority (CCAA).





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CAMEROON CIVIL AVIATION AUTHORITY



CAMEROON CIVIL AVIATION AUTHORITY (CCAA)

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**"To supervise civil aviation safety and security for
the development of air transport in Cameroon".**

AIR TRANSPORTATION IN CAMEROON: ORGANIZATION AND STRUCTURE

Diverse regulatory bodies within Cameroon maintain overall responsibility for the country's air transportation system, all mandated to share a common mission of ensuring safety and service.

These key organizations include:

Ministry of Transport

- The supervisory authority that oversees the sector.
- Works to ensure respect of the State's values by all stakeholders in the air transport sector and also ensures that the country's aviation infrastructure is up-to-date.

Cameroon Civil Aviation Authority (CCAA)

- Is charged with supervising the security of airports by planning and programming the development of airports.
- Negotiates air transport agreements on behalf of government and ensures that those already signed are respected by all signatories.
- Also follows up with regional and international organizations in the civil aviation sector.
- Ensures respect of the rule of law by all competitors in airport activities.
- Follows up with respect to all legislation relating to civil aviation.
- Facilitates development of airport infrastructure.

Airports of Cameroon (ADC)

- Established in 1994, ADC S.A. is a semi-public company.
- Mission: manage, operate, maintain and develop the seven airports which are: Douala, Yaoundé-Nsimalen, Garoua, Maroua, N'Gaoundéré, Bamenda and Bertoua. Its other missions include providing airport assistance services.



Technical Block Douala Airport

CERTIFICATION OF CAMEROON AIRPORTS

- Certifications obtained
 - IATA Certification for ground assistants
- Objectives
 - ISAGO (IATA) - Certification of Douala and Yaounde airports
 - ASQ (ACI) to ICAO standards
 - AHM (IATA)
- Ongoing certifications
 - ISAGO: in collaboration with a subsidiary of the Lufthansa Aviation Quality Service Group
 - ASQ: in collaboration with DKM (Switzerland)
 - Certification of Douala and Yaounde airports: in collaboration with Munich Airport Consulting



"Cameroon has three international airports and five secondary aerodromes. The Government has invested over FCFA 800 billion in these facilities, which are key development levers that have promoted regional growth over the years. As our country takes off toward Vision 2035, the airline industry will play a key role..."

- Pierre Tankam, General Manager, Cameroon Civil Aviation Authority

ASECNA

- The Air Navigation Safety Agency for Africa and Madagascar (ASECNA) is the Air Navigation Services provider.
- Charged with the development, execution and management of facilities and services that transmit technical traffic messages, controlling air traffic, flight information as well as information on the landing of aircraft.

ADC: AWARD WINNER

Recipient of:

- The 2002 Quality Summit Award (Gold category) in New York for good performance, and
- The 2007 Quality Crown Award (Platinum category) in London for commitment to quality service and to improving performance.





ROBERT NKILI
MINISTRE DES TRANSPORTS

FEUILLE DE ROUTE DU MINISTRE DES TRANSPORTS

AMELIORATION DU SYSTEME DE SURETE-SECURITE DES DIFFERENTS MODES DE TRANSPORT

TRANSPORT ROUTIER	TRANSPORT AERIEN	TRANSPORT MARITIME	SECTEUR METEOROLOGIQUE
<p>MISSION : Lutte contre les accidents de la circulation routière</p> <p>OBJECTIF : Réduire le nombre d'accidents et de décès, et améliorer le comportement des usagers de la route</p> <p>TÂCHES</p> <ul style="list-style-type: none"> - Organiser les campagnes de sensibilisation à la sécurité routière; - Contrôler les auto-écoles; - Contrôler les agences de voyages; - Contrôler les centres de formation des formateurs en conduite automobile; - Contrôler la conformité des centres de contrôle technique. <p>INDICATEUR RENDEMENT</p> <ul style="list-style-type: none"> - Rapport des campagnes de sensibilisation organisées; - 300 auto-écoles contrôlées; - 200 agences de voyages contrôlés; - Rapport de contrôle des centres de formation de formateurs; - Rapports de contrôle des centres de contrôles techniques. 	<p>MISSION : Sûreté du domaine public aéroportuaire et sécurité des vols</p> <p>OBJECTIF : Améliorer le dispositif de prévention des crises de sûreté de l'aviation civile.</p> <p>TÂCHES</p> <ul style="list-style-type: none"> - Acquérir les équipements rayons x et pièces de rechange; - Mettre en place un réseau internet sur tous les aéroports en activité. 	<p>MISSIONS</p> <ul style="list-style-type: none"> - Entretien, préservation et rénovation de l'outil portuaire - Supervision des activités portuaires <p>OBJECTIFS</p> <ul style="list-style-type: none"> - Mettre à la disposition des usagers portuaires un outil de qualité. - Réguler les activités dans le secteur portuaire en vue d'améliorer la compétitivité, la sécurité/sûreté des ports <p>TÂCHES</p> <ul style="list-style-type: none"> - Draguer le chenal du PAD - Réhabiliter le balisage au PAD. - Mettre en conformité les installations portuaires au code ISPS. 	<p>MISSION</p> <p>Vulgarisation du comportement général de l'atmosphère.</p> <p>OBJECTIF</p> <p>Assurer la réception continue des images satellitaires pour la surveillance de l'environnement (PUMA 2010).</p> <p>TÂCHE</p> <p>Louer la bande passante VSAT/Internet et entretenir les équipements du projet PUMA.</p> 

MODERNISATION DES INFRASTRUCTURES, DES MOYENS ET SERVICES DES TRANSPORTS

TRANSPORT ROUTIER	TRANSPORT AERIEN	TRANSPORT MARITIME	TRANSPORT FERROVIAIRE
<p>MISSION</p> <p>Facilitation du Transport en Transit (Action non budgétisée)</p> <p>OBJECTIF</p> <p>Améliorer le fonctionnement des organes de suivi des Conventions inter Etats en matière de transport en transit.</p> <p>TÂCHES</p> <ul style="list-style-type: none"> - Evaluation de l'exploitation de la lettre de voiture internationale et de tous les autres titres de transport liés au transit. - Collecte des données statistiques des marchandises en transit auprès du BGFT. 	<p>MISSIONS</p> <ul style="list-style-type: none"> - Organisation et exploitation de l'activité des transports aériens. - Amélioration de l'infrastructure aéroportuaire. <p>OBJECTIF</p> <p>Améliorer la flotte et croître le trafic.</p> <p>TÂCHES</p> <ul style="list-style-type: none"> - Appropriation de deux ou trois avions nouveaux avions turbopropulseurs; - Location des avions B737-700; - Ouverture de nouvelles escales; - Construire une deuxième bretelle reliant la piste d'envol au parking avions à l'aéroport international de Douala. 	<p>MISSIONS</p> <ul style="list-style-type: none"> - Réhabilitation et modernisation de l'infrastructure portuaire. - Planification du développement portuaire national <p>OBJECTIFS</p> <ul style="list-style-type: none"> - Réhabiliter et moderniser les infrastructures portuaires; - Conduire la planification du développement portuaire national et assurer le suivi des projets y afférents. <p>TÂCHES</p> <ul style="list-style-type: none"> - Réhabiliter la route de la marine nationale au port de Douala; - Elaborer le schéma directeur d'aménagement et d'exploitation des voies navigables - Elaborer un schéma directeur et de protection du Littoral; - Suivre les projets de construction des ports en eau profonde de Kribi et de Limbe; - Evaluer les actions programmées par le comité de pilotage du port de Kribi; - Valider l'étude de faisabilité technico du quai polyvalent. 	<p>MISSION</p> <p>Rénovation des infrastructures ferroviaires et acquisition des voitures-wagons et des locomotives.</p> <p>OBJECTIFS</p> <ul style="list-style-type: none"> - Renouvellement du tronçon de voie entre Batchenga et Ka'a; - Amélioration du Transport voyageurs par le rail. <p>TÂCHES</p> <ul style="list-style-type: none"> - Signature du contrat; - Démarrage des travaux; - Acquisition de 15 Voitures à voyageurs; - Trouver les financements; - Signature d'un Avenant. 



Camair-Co is Cameroon's national airline which specializes in the air transportation of passengers and cargo



Cargo loading and Mr. Matthijs Boertien, General Manager, Camair-Co



State Profile – Cameroon

CAMAIR-CO: PROGRAMMED FOR SUCCESS

Excellent operational record: not blacklisted anywhere

- Born out of the ashes of the defunct Cameroon Airlines, the Cameroon Airlines Corporation (Camair-Co) is Cameroon's national airline which specializes in the air transportation of passengers and cargo.
- Created by presidential decree on September 11, 2006, Camair-Co's sole shareholder is the State of Cameroon.
- This company, which is the pride of Cameroon, is not blacklisted anywhere. This is positive proof of the determination and efforts of the government, the civil aviation officials and the company's managers to meet the international air transport standards in force.
- Camair-Co is a full member of AFRASCO (Africa Aviation Safety Council), and has 438 employees, both Cameroonians and expatriates of various nationalities.

A growing network of international and domestic destinations

- With a fleet of three (03) aircraft (one Boeing 767-300 ER and two Boeing 737-700), it serves:
 - International destinations: Paris (Charles De Gaulle) five times a week, West and Central Africa (the cities of N'djamena, Cotonou, Lagos, Libreville, Brazzaville, Malabo, Kinshasa and Abidjan as from July 2nd 2013).
 - Domestic destinations: Yaoundé-Nsimalen and Garoua International Airports, Maroua-Salak and Ngoundere customs airports from its current base of operations at the Douala International Airport.
- Relative to 2011, 2012 was marked by the reinforcement of Camair-Co flights on the international scene in the face of greater competition from other regional and international companies such as Air France, Brussels Airlines, Asky Airlines, Royal Air Maroc, Kenya Airways and Air Nigeria.

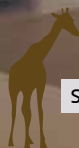
- Camair-Co registered 260,505 passengers in 2012 compared to 106,466 in 2011, a 145% increase.

Partnerships for success

- Through strategic partnerships built with reliable companies, globally recognized for their proven expertise and competence (notably Lufthansa Technik for aircraft maintenance, Servair and Doual'air for on-board services, Euro-cargo for the routing and tracking of parcels and freight and Amadeus for flight reservations), Camair-Co's aim is to become the leading airline company that connects Atlantic Africa to the rest of the world.

For the next years

- In the near future, the company plans to increase its fleet to four long-haul aircraft amongst which are two Boeing 787s. Sixteen other aircraft will be for regional and domestic flights.
- To reinforce its position in the domestic and regional markets, the company has increased its flight frequency for certain destinations such as Garoua, Libreville, Malabo from three to six weekly flights.
- In order to attain its growth level, Camair-Co is moving towards the opening of new business units such as Camair-Co Cargo; realized in partnership with ECS, which will become operational before the end of the year.
- For its Cargo fleet, the company intends to deploy six aircraft for its regional and international routes.
- Moreover, the company is in negotiations with many other partners for the opening of a regional maintenance center: Camair-Co Technik and training center: Camair-Co Academy.
- All these activities will be concentrated in Yaoundé, the future hub of the company. This vision emanates from the new Director General, Mr. Matthijs Boertien, who has great experience and competence in the civil aviation sector.





Cameroon Civil Aviation Authority

**“To supervise civil aviation safety and
security for the development of
air transport in Cameroon”**



CAMEROON CIVIL AVIATION AUTHORITY (CCAA)

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SIGNIFICANT EFFORTS FOR CIVIL AVIATION SECURITY IN CAMEROON

- Organization
 - Creation of a National Security Committee by presidential decree
- Airports
 - Airport security programs
 - Airport security committees
 - Airlines serving Cameroon's airports must submit their security plans
 - Some security organisations and service providers act as intermediaries with AVSEC officials
- Training of Managers and Staff Responsible for Security Implementation
 - ICAO and ITDI (IATA) trained instructors/auditors
 - CCAA managers attend training sessions in AVSEC centres
 - Training programs prepared and organized every year for civil aviation staff
- Quest for Cohesion in the System
 - Partnership agreements between the CCAA and, respectively, the Gendarmerie (SED), the Police (DGSN), the Intelligence Services (DGRE) and the Ministry of Finance (MINFI) for better involvement of their administrations in the security system
 - This approach became a reference and an example worth emulating in the ICAO community

REGIONAL SCHOOL FOR FIRE SAFETY (ERSI), DOUALA

- Created in 1964 in Douala, ERSI is one of the ASECNA agency's three prestigious institutions of higher education for the Safety of Aerial Navigation in Africa.
- Main mission: Initial and advanced training of Aerodrome Firefighters (AF) and Senior Technicians (ST) in the field of rescue and firefighting in general, and aircraft fires in particular
- Training in accordance with ICAO standards.



- The Legal Framework
 - A National Civil Aviation Security Program (Cameroon's national policy in this domain) was signed by the President of the Republic.
 - Other related regulatory instruments were also adopted, notably those relating to controlling access to airports in Cameroon, screening passengers and their carry-on and checked baggage, and air freight.
 - A quality control program has just been signed by the Minister of Transport while a training program has already been submitted for signature.
- Quality Control
 - Special emphasis on background checks and training of staff implementing security control measures at airports, and on people other than passengers, with unaccompanied access rights to restricted security areas at airports.
 - The airport authority has two fluoroscopic imaging instructors, which facilitates the training of screening staff at airports.

COMMERCIAL AIRLINES SERVING CAMEROON

	Airlines	Countries
1	Africa's Connection	Sao Tomé
2	Africanwest Cargo	Togo
3	Air Côte d'Ivoire	Côte d'Ivoire
4	Air France	France
5	Air Sénégal	Senegal
6	Arik Air	Nigeria
7	Asky Airlines	Togo
8	Brussels Airlines	Belgium
9	Cronos Airlines	Equatorial Guinea
10	Ethiopian Airlines	Ethiopia
11	Kenya Airways	Kenya
12	Royal Air Maroc	Marocco
13	Solenta Aviation	Gabon
14	Sky Gabon	Gabon
15	South Africa Airways	South Africa
16	Taag Angola	Angola
17	Trans Air Congo	Congo
18	Turkish Airlines	Turkey

Police Booths Yaoundé-Nsimalen Airport





Emergency Operations Center built by PRSSAC, Douala International Airport, and Security wire fence at Douala Airport



- Managing the Response to Acts of Unlawful Interference
 - Professional Explosive Ordnance Disposal specialists at the Yaoundé-Nsimalen and Douala International Airports to identify, examine, neutralise and evaluate any potentially dangerous device.
 - Crisis management exercises performed at the Yaoundé-Nsimalen and Douala International Airports
- Security Equipment and Infrastructure: Douala and Yaoundé-Nsimalen Airports can boast of being well equipped.
 - Today, these airports have wire fencing that meets international standards.
 - Under the West and Central African Air Transport Safety and Security Project (PRSSAC), they have received donations of equipment from the US government and the World Bank (IDA Fund), which have boosted security. These include:
 - Equipment for screening cabin baggage and hold baggage;
 - Walk-through metal detection equipment for passenger screening;
 - Magnetometers;
 - Explosive trace detection equipment;
 - Telescopic mirrors;
 - X-ray equipment for air freight screening at Yaoundé-Nsimalen International Airport. There are also vehicles and bikes for patrols;
 - Biometric access control system and a remote surveillance system at Douala International Airport.

SAR (SEARCH AND RESCUE): SERVICES GETTING UP TO STANDARD

- The Rescue Sub-centre (RSC) that was initially earmarked for Douala, was transferred to Yaounde in order to ensure better management of SAR operations.
- The Yaounde RSC was set up and equipped by the Cameroon Civil Aviation Authority (CCAA) and handed over to the Air Force on June 14, 2012
- Activities: Agreements with neighbouring countries, regular training of civil and military SAR personnel in certified training centres, SAR exercises.

THE MODERNIZATION OF AIRPORTS AND HELIPORTS: A GIANT STEP FORWARD

Since 2010, Cameroon has implemented far-reaching measures to modernize and bring its aeronautic infrastructure up to international standards. These include:

- Completing the fence of Douala and Yaoundé-Nsimalen International Airports.
- Acquiring ground handling equipment :
 - Visual docking guidance systems;
 - Check-in desks;
 - Backup generators;
 - Self-propelled gangways;
 - Multifunction Push Back;
 - Airplane tow bars for Yaoundé and Douala Airports;
 - Shelves for the archive room;
 - Telescopic gangways.
- Airport upgrade projects:
 - Full renovation of Bamenda, Bertoua and Ngaoundere Airports;
 - Replacement of the roof, the air conditioning facilities in the check-in lounge and private lounges in Garoua Airport;



Ground handling equipment (Push Back TPX)





Check-in and private lounge at the Yaoundé-Nsimalen Airport



Douala International Airport Hall and Improving the firefighting capacity of secondary airports (Fire Vehicles at Maroua-Salak Airport)



“We have drawn up a five-year strategic development plan which aims, upon completion, to make the Douala and Yaoundé-Nsimalen Airports rank among the best international airports in Africa, thereby boosting Cameroon’s socioeconomic development.”

**- Thomas Owona Assoumou,
General Manager of
Aéroports du Cameroun (ADC)**

- In Douala Airport: upgrading of sanitation facilities, private lounges, boarding lounges, replacement of air conditioning units, construction of a second access ramp to the runway, implementation of an integrated flight management and remote display system, automation of store management at cargo terminals and partial lighting of roads;
- In Yaoundé-Nsimalen Airport: replacement of air conditioning units, fitting out of lounges, renewal of aircraft docking guidance systems, extension of the passenger management system with ten additional check-in counters, replacement of the time distribution and the public address systems, renovation of sanitation facilities, escalators, elevators, computerization of cargo terminals;
- In Maroua-Salak Airport: renovation of the VIP lounge, sanitation facilities, and renovation of the roof.
- Improving the firefighting capacity of secondary airports
 - Acquire (on-going) six (06) medium power firefighting trucks and three (03) Flyco apron vehicles;
 - Acquire a significant quantity of collective and individual equipment for firefighters;
 - Acquire a significant quantity of firefighting materials;
 - Train about twenty airport firefighters.
- Provide additional air navigation aid to secondary airports
 - Acquire (on-going) a solar CVOR/DME and an ILS at Maroua-Salak Airport.
- Provide additional radio-electric infrastructure at secondary airports
 - Acquire about ten VHF transceivers for control towers;
 - Acquire about ten VHF transceivers for firefighting trucks;
 - Acquire about twenty VHF walkie-talkie transceivers to coordinate airport operations;
 - Acquire five (05) HF BLU transceivers for the BCT;
 - Acquire five (05) automatic switchboards for briefing offices.
- Provide additional energy and ground lighting infrastructure
 - Install modern ground lighting at the Maroua-Salak Airport;
 - Acquire a powerful generator for same airport;
 - Acquire (on-going) two powerful generators for Ngaoundere Airport;
 - Acquire (on-going) autonomous beacons at Bafoussam Airport.
- Implement a telecommunications network project by VSAT between certain airports to better disseminate aeronautic information
- Launch a meteorological service automation project for certain airports (Maroua-Salak, Bafoussam, Bamenda)
- Coordinate the management of about ten heliports (Bamenda, Ebolowa, Kribi, Memvele, Lompingar, Buea).





Pokossy Doumbe
Président du Conseil
d'Administration



Thomas Owona Assoumou
Directeur Général

Salons
VIP

Le must de l'accueil

Une porte ouverte sur le monde...

FUTURE PROJECTS

Many projects are planned for the next three years. These include:

- Conduct studies on the construction of a new International Airport in Douala;
- Study how to develop Kribi Airport;
- Extend Maroua-Salak Airport to 2,800 metres;
- Acquire a new DVOR/DME at Ngaoundere Airport;
- Upgrade Tiko Airport;
- Acquire additional firefighting vehicles.

CAMEROON – ICAO: AN ENDURING AND SUCCESSFUL PARTNERSHIP

- Since it became a member of the International Civil Aviation Organization, Cameroon has always met its ICAO obligations, and has always participated in the gatherings of the Organization.
- Cameroon has regularly sought the collaboration of the ICAO Technical Cooperation Bureau (TCB) for many projects, including: Construction of the Yaoundé-Nsimalen International Airport; Restructuring of Cameroon Airlines (defunct national airline) Creation of Aéroports du Cameroon (ADC) and Study of Air Navigation Infrastructure.
- Cameroon has been participating on the ICAO Council since 1992.
- Participation in the ICAO Universal Safety Oversight Programme Reports (general ICAO audit carried out in Cameroon in 2006).
- Participation in the ICAO Security Audit Programme (security audit carried out in Cameroon in 2008).
- Security crisis management exercise: (ICAO experts participated in drafting and planning crisis management exercises in Cameroon).

AUTHORIZED FLIGHT INFORMATION CENTRE OF DOUALA UNDER CONSTRUCTION SINCE 2011:

- Premises housing the required equipment: furniture, E/R, VHF, HF, AFTN, ATS/DS, VSAT, power, etc.
- Arrangements for the provision of Air Traffic Services (ATS) in two sectors (South Sector and North Sector)
- Fixed delineation: vertically from ground/sea level to flight level FL245, excluding terminal control areas (TCA); and horizontally respecting Cameroon's territorial boundaries.
- Enables Cameroon to assert sovereignty over its airspace;
- Efficiency in search and rescue operations;

COMPUTERIZED PROCESSING OF BAGGAGE AND PARCELS AT DOUALA AND YAOUNDE AIRPORTS

- Access to the international baggage tracking network via the World Tracer software: baggage location and shipping information in a few clicks.
- Processing freight baggage: computerization using the Handling Management Software (HMS), which shares an interface with the SYDONIA software used by customs.

- ICAO has benefitted from Cameroon's expertise in several areas, including in the organisation of several continental and regional gatherings.
- Cameroon has provided qualified technical personnel who have worked together with ICAO safety and security audit teams in several African countries.
- Use of Cameroonian expertise in USAP audits.
- Training: ICAO and Cameroonian instructors regularly give courses covering several areas of security.

ICAO PROGRAMMES

Safety Management Systems (SMS)

- SMS standard has already been mainstreamed in the country's regulations. Therefore, all operators applying for an aerodrome certificate must implement an SMS and highlight its effectiveness.
- Reports from safety audits performed in 2000, 2003 and 2006 under ICAO's Universal Safety Oversight Audit Program (USOAP) indicated that Cameroon had already made substantial progress.
- The CCAA has started developing support tools and methods that will help each airport operator adapt its SMS to the specific safety risks applicable to its activities or organization.
- Statutory instruments governing the definition, development and implementation of the State Safety Program (SSP) are under preparation and will be published by 2014.

Cameroon's SMS should be available by 2015, the expected start date of related activities.

Aeronautic Information Management (AIM)

The CCAA has taken steps to improve the gathering and organization of aeronautic information:

- Designating a contact person and producing regulatory texts organizing the supply of aeronautic information;
- Updating the AIP: streamlining project initiated by the CCAA, and providing AIPs to aeronautic information offices;
- Implementation by the CCAA of a program to produce aeronautical charts for national airports;
- Monitoring the AIS to AIM transition process throughout the country.





Mr. Englebert Zoa Etundi, Permanent Representative of Cameroon to ICAO



From left to right, Mr. Roberto Kobeh González, President of ICAO Council, Pr Robert Nkili, Cameroonian Minister of Transport, and Mr. Raymond Benjamin, Secretary General of ICAO and (below) Training of Police and Customs personnel by the CCAA



Performance-Based Navigation (PBN): More than 50% Implementation

- The CCAA, ASECNA and local airline companies contributed to drawing up a national PBN plan. It is currently being reviewed and will be published in the first half of 2013.
- Meanwhile, the following measures have been taken to facilitate the implementation of the PBN in Cameroon:
 - A WGS-84 campaign has been launched at the three international airports (Douala, Yaoundé-Nsimalen and Garoua), and major secondary airports.
 - RNAV STARS (GNSS) have been installed at the terminals of Douala and Yaoundé-Nsimalen International Airports.
 - RNAV (GNSS) approach procedures are available for the three international airports: Douala (RWY30), Yaoundé-Nsimalen (RWY0i and RWY19) and Garoua (RWY27).
 - The CCAA has published a document specifying conditions for carrying geo-localization equipment by satellite on board aircraft and the use of GNSS over Cameroon air space.
 - RNAV/RNP 10: UM998, UP685, UQ589 routes have been implemented over Cameroon air space. ■

DJA FAUNAL RESERVE, UNESCO WORLD HERITAGE SITE

- Declared a World Heritage Site by UNESCO
- One of Africa's best-protected rainforests, with 90% of its area left untouched.
- Almost completely surrounded by the Dja River which forms a natural boundary.
- A reserve remarkable for its biodiversity and home to a wide variety of primates (at least 14 species).
- Gorilla, chimpanzee and forest elephant sanctuary.
- Home to 107 species of mammals (of which five are endangered) and to very many plant species
- Has a Baka Pygmy population living there in a relatively traditional manner, conferring upon the site a recognised cultural value.





everywhere,
we care...



Camair-Co

L'étoile du Cameroun

The image features a prominent, tall, white, cylindrical tower with a green observation deck at the top. The tower is surrounded by lush greenery, including palm trees and other tropical plants. In the foreground, there is a body of water that reflects the tower. The sky is a clear, light blue. The overall scene is a well-maintained park or recreational area.

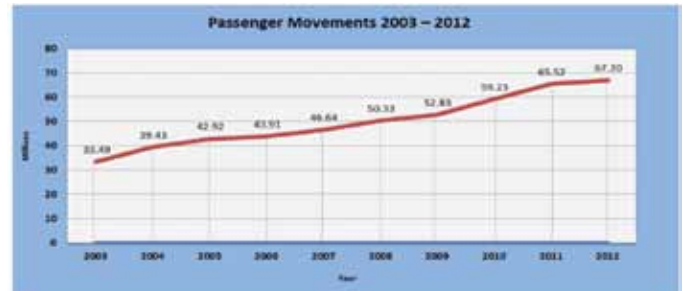
Malaysia

**A Vital Hub in the
Asia Pacific Region**

MALAYSIA: A LEADING AVIATION NATION IN THE ASIA PACIFIC REGION

Strategically situated in the world's region of growth, Malaysia's aviation landscape continues with significant growth and rapid development. In the early stages, aviation in Malaysia focused on domestic services including bridging the divide between East and West Malaysia. Today civil aviation is an integral part of Malaysia's globalised economy. Aviation contributes much to the national economy connecting the nation to global markets. It has facilitated trade, expanded export markets, generated tourism and is a key enabler of business and commerce.

Civil aviation in Malaysia has progressed along with global advances in aviation. Malaysia has emerged as a vital hub in the Asia Pacific Region due to a clear aviation policy and the advantage of strong economic fundamentals. Working with all aviation stakeholders, Malaysian aviation authorities are committed to safety, security and environmental protection as well as the sustainable development of air transport. With a comprehensive policy covering all key aspects of aviation, focusing on growth areas, strategic development objectives, long-term strategies and transformational approaches, Malaysia aspires to be a leading aviation nation in the Asia Pacific Region.



PROGRESSIVE LIBERAL AVIATION REGIME

Liberalization is fundamental for air transport growth and long-term sustainability of global aviation. Along with liberalization, there was structural transformation in the industry as it adjusted to new realities. A liberal aviation policy increases accessibility and promotes air travel. Over the years, Malaysia has promoted a progressive liberal aviation policy as part of efforts to develop the air transport system, generate economic growth, increase competitiveness and promote global integration.

Open-skies agreements, greater competition, business-friendly measures, enhanced connectivity, increased air transport availability and efficiency as well as continuous transformation are characteristics of Malaysia's progressive liberal aviation regime. Existing policies will be continuously fine-tuned and new strategies formulated as part of efforts to promote further liberalization and sustainable air transport. These include the identification of impediments and formulation of strategies to overcome them. Restrictions primarily beyond third and fourth freedoms will be given attention to facilitate market access expansion.

Malaysia's signing and ratification of ASEAN open-skies agreements enable designated carriers to operate third, fourth and fifth freedom traffic rights between any cities of ASEAN with unlimited frequencies and aircraft type.

Malaysia's national carrier, Malaysia Airlines, currently flies to 46 destinations across six continents due largely to Malaysia's liberal aviation regime. Its entry into the One World alliance will further expand Malaysia's route network, enhance connectivity as well as enable diversification beyond traditional markets.

A significant recent development in Malaysia's aviation landscape and progressive liberal aviation regime is Malindo Airways, Malaysia's newest scheduled carrier. The carrier will commence operations in March 2013. With a product close to full service carriers with low-cost fares, consumers will be the



The stunning view of KLIA's drop-off area



ultimate beneficiary as competitors consolidate operations to meet the enhanced liberalized environment in the air travel industry. This new development will serve as a catalyst for greater competition, increased accessibility, enhanced connectivity as well as air transport efficiency and availability.

Open-skies agreements, increased competition, air transport availability and efficiency are characteristics of Malaysia's liberal aviation regime.



Malaysia's Air Asia has been voted the World's Best Low-Cost Airline

LOW-COST CARRIERS AND THE CHANGING LANDSCAPE ACROSS THE REGION

Liberalisation and deregulation have transformed global aviation. The industry has undergone major transformation as it adjusts to new realities. This transformation has created a more competitive environment and led to the emergence of low-cost carriers. Low-cost carriers have challenged the full service network model and changed the dynamics of air travel. The low-cost carrier model continues to adjust in a dynamic and more competitive marketplace.

Much of the recent growth of the airline industry has been attributed to the emergence of low-cost carriers. In an increasingly competitive environment, low-cost carriers have created new demand, opened new hubs and accessed secondary markets and their operations have made the world a smaller place. They now have access to lucrative routes and have plans to tap the rich Asia Pacific travel market. Low-cost carrier operations have made air travel more affordable and accessible with competitive fares.

Malaysia has contributed significantly to the low-cost carrier segment in the Asia Pacific Region. Malaysia's AirAsia is Asia's first and largest low-cost carrier and is testimony that the low-cost airline model works in Asia. AirAsia has been voted the World's Best Low-Cost Airline for 2009, 2010, 2011 and 2012. To tap the growing low-cost carrier market, AirAsia has joint ventures in Thailand, Indonesia, the Philippines and Japan. With its tagline "Now Everyone Can Fly", AirAsia services an extensive network of over 172 routes covering over 89 destinations with 118 aircraft. In the wake of Air Asia's success, low-cost carriers have emerged all over the Asia Pacific Region.

AirAsia X, the low-cost long haul affiliate of AirAsia, currently flies to destinations in China, Australia, Taiwan, Iran, Korea, Japan and Nepal and complements AirAsia's current extensive route network, enabling greater connectivity into and out of the ASEAN Region.

AIRPORT NETWORK

Malaysia has an active investment policy for airports with a well-developed and extensive airport network. Airport infrastructure is important as air transport plays a major role in Malaysia's economic activities and national competitiveness. Airport infrastructure in Malaysia is supply driven, with capacity provided ahead of demand.

Airport development in Malaysia is generally based on traffic forecasts. A set of design parameters are prepared for each airport focusing mainly on aircraft movements, parking stand requirements and passenger peak hours. Airports are developed in accordance with supply ahead of demand as well as to 'just-in-time' principles where infrastructure, facilities and services at airports are made ready to accommodate the forecast and expectation of demands from airlines and their passengers.

Over the past decade, airports in Malaysia have undergone various magnitudes of development. The development of airports in Malaysia, apart from enhancement of capacity to cater to forecast demands, is geared towards improving safety and efficiency levels at airports.

Malaysia's six international airports and 16 domestic airports contribute much to economic development as well as rapid and significant growth in passenger volume and cargo handled at airports. Malaysia's main gateway, the Kuala Lumpur International Airport or KLIA, is testimony to the active investment policy and supply driven airport infrastructure capacity. The airport has sufficient capacity planned to handle up to 100 million passengers per annum. It is an eco-friendly airport and handles A380 operations.

Active investment policy for airports

Well-developed airport network contributing to significant growth in passengers and cargo

NOW, SEAMLESS JOURNEYS TO OVER 800 DESTINATIONS ACROSS MORE THAN 150 COUNTRIES.



MALAYSIA AIRLINES IS NOW PART OF **ONEWORLD**.

Journeys with **oneworld** now seamlessly connect you to more destinations. You will also enjoy more Enrich rewards and be pampered wherever you fly. From 15 February to 15 April 2013, earn double Enrich Miles when you fly via the **oneworld** network.

From 1 April 2013, members of Malaysia Airlines' Enrich and LAN's LANPASS programmes enjoy reciprocal frequent flyer rewards and benefits when flying on each other's airlines.

JOURNEYS ARE MADE BY
THE PEOPLE YOU TRAVEL WITH. **malaysia** airlines





Artist impression of the entrance to the new klia2



The aerial view of klia2, the world's largest purpose-built terminal dedicated to low-cost carriers.

In recognizing the potential of the business model pioneered by low-cost aviation, Malaysia built Asia Pacific's first low-cost terminal at KLIA in March 2006 to cater to low-cost operations in the region. Supporting Infrastructure and facilities have also been provided at other international airports.

klia2 is testimony to Malaysia's strategic development objectives, supply driven airport infrastructure and renewed focus on growth areas. klia2 is a new terminal at the Kuala Lumpur International Airport designed to meet the continued demands of low-cost carriers. It is the world's largest purpose built terminal for low-cost carriers.

klia2 is the world's largest purpose built terminal for low-cost carriers

Built at a cost of USD 1.3 billion, the new 45 million passenger terminal boosts superior facilities and provides for enhanced passenger convenience. It will be operational in July 2013. An increase in the number of airlines operating to Malaysia in the low-cost carrier segment is expected when klia2 is fully operational.

SKILLED AVIATION PERSONNEL - HUMAN RESOURCE DEVELOPMENT AND SHARING EXPERIENCES/KNOWLEDGE

Human resource planning is fundamental in addressing the issue of anticipated skilled personnel shortages. With increased air travel, there will always be a need for more aviation personnel to manage and maintain a global air transport system. The industry will require more maintenance personnel, pilots, air traffic controllers and security personnel.

An important contribution of Malaysia to international civil aviation is in human resource development. Building on Malaysia's development experience and wishing to contribute to the continued availability of skilled aviation personnel, Malaysia has extended assistance to other nations via the Malaysian Technical Cooperation Programme to meet the training needs of global aviation.

16 **Indonesia**
Experiences

15 **Malaysia**
Destinations

13 **Thailand**
Hotspots

12 **China**
Discoveries

8 **Indochina**
Gems

..and many more dream getaways.



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choose from, there's a time and place for everyone to fly.
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Commitment to continuous safety and security enhancement in line with ICAO strategic objectives

Under the unique Malaysian Technical Cooperation Programme, a total of 364 aviation personnel from 62 countries have so far been trained under fully sponsored courses. In addition, 929 participants from 54 countries have received aviation security training at the ICAO accredited Malaysia Airports Training Centre.

Malaysia is keen to expand its training programmes in aviation with the aim of promoting a cooperative and collaborative environment with regional organisations and ICAO in addressing the challenge of continued availability of skilled aviation personnel.

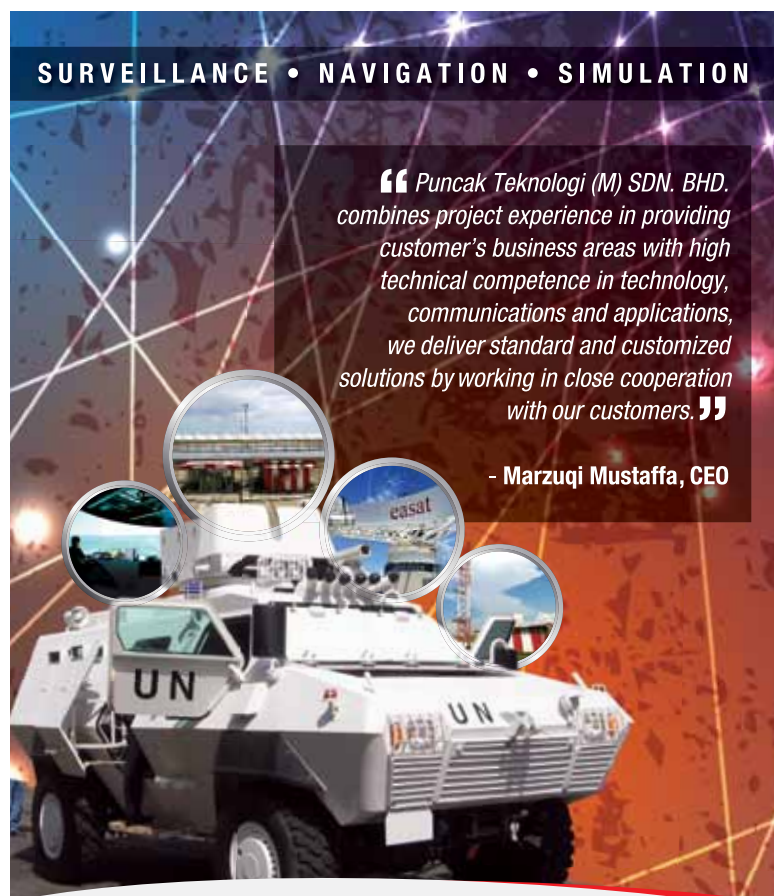
Contribution to Skilled Aviation Personnel

MTCP- **364** fully sponsored participants from **62** Countries **929** participants from **54** countries received training at the ICAO accredited Malaysia Airports Training Centre.

COMMITMENT TO SAFETY AND SECURITY

Malaysia is committed to continuous safety and security enhancements in line with ICAO's Strategic Objectives for 2011 – 2013. Malaysian aviation authorities are committed to an oversight system with the highest standards of safety and security and work closely with all stakeholders on compliance with ICAO standards and Recommended Practices. The country has in place a proven safety and security oversight structure. The oversight structure is continuously monitored and assessed.

Malaysia's accomplishments in safety and security audits under the Universal Safety Oversight Audit Programme in 2005 and the Universal Security Audit Programme in 2011 demonstrated the effectiveness of Malaysia's national aviation safety and security oversight system and programme. A comprehensive legal framework, modern equipment, trained personnel and new programmes are elements that contribute to Malaysia's track record on safety and security.



SURVEILLANCE • NAVIGATION • SIMULATION

“ Puncak Teknologi (M) SDN. BHD. combines project experience in providing customer's business areas with high technical competence in technology, communications and applications, we deliver standard and customized solutions by working in close cooperation with our customers. ”

- Marzuqi Mustafa, CEO

Outcome of Kuala Lumpur Security Conference presented during the High-Level Conference on Aviation Security in Montréal

Malaysia hosted the Regional Aviation Security Conference in Kuala Lumpur from 11-13 January 2012. The Conference was a commitment to strengthen aviation security and protect civil aviation in the Asia Pacific Region. The Conference adopted a Joint Statement and a comprehensive strategy to systematically improve passenger and air cargo security. The outcome of the Kuala Lumpur Conference and progress in implementing the Joint Statement were presented by Malaysia during the High-level Conference on Aviation Security in Montréal on 12 September 2012.

GEARING FOR THE FUTURE

Aviation is a key facilitator for Malaysia's globalised export oriented and tourism dependent economy. Malaysia has reaped the benefits from aviation with long-term strategies, a clear aviation policy, new services, strategic development objectives, compliance to ICAO's standards and Recommended Practices, international collaboration and renewed focus on growth areas. With a vibrant aviation sector and sustainable growth, the nation is committed to the continued strengthening of the aviation sector with aspirations to be a leading aviation nation in the Asia Pacific Region. Malaysia's aviation sector is expected to record strong and sustainable growth over the next decade supported by continued liberalisation and structural transformation.



"Malaysia will contribute to sustaining the Global Aviation System in collaboration with the International Community"



Total passengers in 2012 - 67.2 million and freight volume - 886,955 metric tonnes



Ranked 16th in the world in terms of freight tonnes & 21st in passenger kilometres performed



Air Service Agreements with 96 countries, 18 open-skies, 67 foreign airlines operate to Malaysia



Membership in the Council of ICAO



About Malaysia's Aviation

An eco-friendly airport, capable of handling A380 operations with capacity up to 100 million passengers annually klia2 - world's largest low-cost carrier terminal



Air Asia is Asia's first and largest low-cost carrier



Advanced airport system comprising six international & 16 domestic airports



FAA's recognition through the Bilateral Aviation Safety Agreement (BASA). The Malaysia/US BASA was the first in Asia and the fifth worldwide.

Malaysia Airlines flies to 46 international destinations across six continents



The Rise of a New Titan



We invite you to step into our world with the arrival of the New Terminal at KL International Airport - klia2.

Destined to be a global benchmark, klia2 embodies the concept of the 'Next Generation Hub' that will ease connectivity between full service carriers and low cost carriers. It will be the only dedicated mega terminal in the world that caters for the fast growing low cost carrier industry in this region.

klia2 is designed with flexibility in mind to allow expandability for future growth trends and operational models of airlines. Its robustness in nature will no doubt, be able to accommodate the ever-evolving and dynamic global aviation industry.



AIRPORT CARBON ACCREDITATION: WHEN THE AIRPORT INDUSTRY COLLECTIVELY ADDRESSES CO₂ EMISSIONS ON THE AIRPORT SITE



ABOUT THE AUTHOR

Chrystelle Damar joined ACI EUROPE in October 2009 and is responsible for the coordination of all aspects of the association's environmental strategy. In this regard, she represents ACI EUROPE in various high-level EU, ECAC and EUROCONTROL fora. She also manages Airport Carbon Accreditation.

✈ While ICAO has put cruise CO₂ emissions high on its environmental agenda, the airport industry has also taken steps to manage CO₂ emissions on the ground.

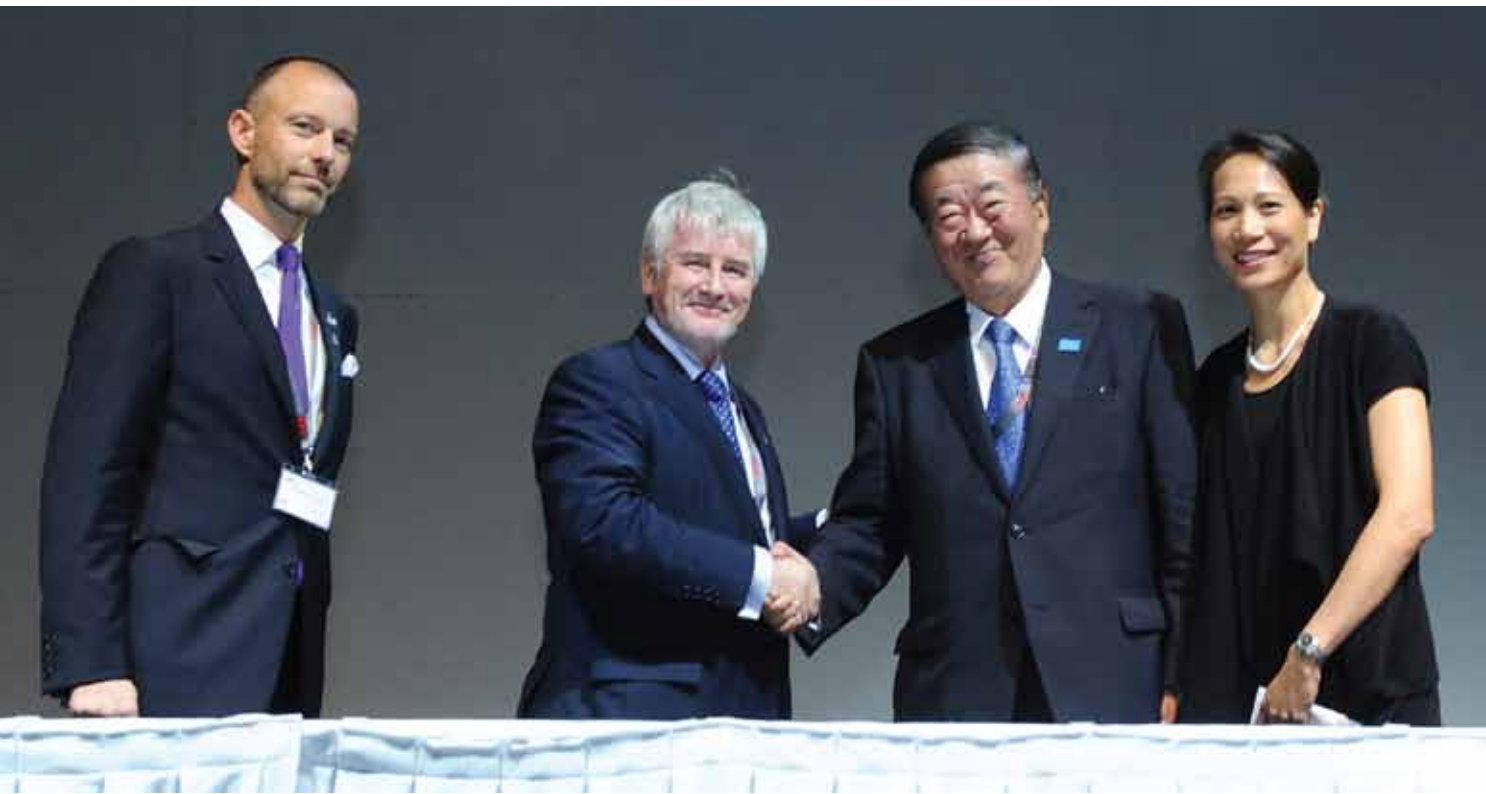
Airport Carbon Accreditation is a voluntary airport-industry initiative aimed at mapping carbon emissions emitted on the airport site and subsequently, introducing emissions reduction activities. It is the only airport-specific carbon mapping and management standard which relies on internationally-recognized methodologies and is site-specific at the same time. This means that the standard is flexible enough to take account of national or local legal requirements that individual airport operators have to comply with, while ensuring that the methodology used always satisfies a high level of robustness.

Also, as part of their State Action Plan submission on carbon management to the ICAO Secretariat, ECAC States (European Civil Aviation Conference) decided to include *Airport Carbon Accreditation* in the list of voluntary measures that can be implemented to actually show a reduction in aviation-related emissions. This has clearly raised the programme to a level where State authorities recognize that *Airport Carbon Accreditation* is robust and outcome-driven. With the extension of *Airport Carbon Accreditation* outside Europe, many other States are now able to also encourage their airports to participate in the programme and to integrate successful accreditations in their State Action Plans.

Airport Carbon Accreditation was launched in Europe in May 2009, in Asia/Pacific in November 2011 and will be extended to Africa in June 2013. To date, 69 airports are accredited in Europe and six airports are accredited in Asia/Pacific.

This impressive take-up by the industry is partly driven by the various carbon reduction objectives that individual States adopt throughout the world (25 per cent reduction in 2020 compared to 1990 for Japan, 10 per cent to 20 per cent reduction in 2020 compared to 1990 for New-Zealand, 14 per cent reduction in France in 2020 compared to 2005 levels), and also by an increased demand from society at large to show sustainability track records.

The design features of the programme also contribute to its success.



Launch of *Airport Carbon Accreditation* in Asia/Pacific on November 1st, 2011. From left to right: Olivier Jankovec - ACI EUROPE Director General, Declan Collier – CEO of London City Airport and President of ACI EUROPE, Kosaburo Morinaka , ACI Asia/Pacific Vice President & President & CEO of Narita International Airport, and Patti Chau –ACI Asia/Pacific Regional Director

It is scientifically robust. The methodology of *Airport Carbon Accreditation* is based on internationally-recognized standards; i.e. the Greenhouse Gas Protocol developed by the World Business Council for Sustainable Development (WBCSD) and the World Resource Institute (WRI). However, due to the specific nature of airports, this Protocol needed to be adapted to fit with the operational reality. Indeed, the airport site is by nature a collaborative space and the airport operator is not in control of all the CO₂ emitting activities. Also, the requirements of the four levels of accreditation (Level 1: 'Mapping', Level 2: 'Reduction', Level 3: 'Optimization' and Level 3+: 'Neutrality') are outcome-driven and fact-based. All information provided by the airport is audited independently by a third-party verifier. Thus, we are able to determine that a reduction of more than 414,000t CO₂ was achieved in Year 3 by accredited airports (Level 2 and above).

It is administered independently. A world-leading consultancy company 'WSP Environment & Energy', administrates the programme, so that the highest level of integrity and credibility is guaranteed.

It is overseen by an independent Advisory Board of climate change and aviation experts. The role of the Advisory Board is to oversee the activities of the Administrator and to review

the data included in the programme's Annual Report. It is composed of a representative from the United Nations Environmental Programme (UNEP), the Director General of Eurocontrol, the ECAC Focal Point for Environment, a representative of the European Commission's Directorate General for Climate Action, a representative of the European Commission's Directorate General for Transport and Mobility and a representative of Manchester Metropolitan University. ECAC and Eurocontrol have also officially endorsed the programme, thus committing to promoting it within their respective organizations. The Advisory Board has been instrumental in driving the evolution of the programme. Indeed, in a fast-changing regulatory environment, the members of the Advisory Board have ensured *Airport Carbon Accreditation* takes into account the state-of-the-art rules and practices.

With four years of experience following the launch of *Airport Carbon Accreditation*, we have enough hindsight to identify the main benefits of participation. Over time, accredited airport operators have shared their feedback with ACI EUROPE.

The benefits of participation very much depend on the level of accreditation of individual airports.

BENEFITS OF PARTICIPATION AT LEVEL 1

- Data collation and verification ensures that a clear understanding of emissions sources at the airport is developed, enabling the airport to identify priority areas for emissions reduction.
- Carbon data provides detailed information to support the development of the business case for emissions reduction initiatives for sources under the airport's direct control.
- Accreditation at Level 1 promotes dialogue between airport personnel and departments on issues relating to CO₂ emissions.
- Sends an early signal that the airport is addressing the climate change agenda, which is enhanced by the high level policy commitment to emissions reduction.

BENEFITS OF PARTICIPATION AT LEVEL 2

- Adoption of a systematic approach to carbon management at the airport ensures that information and data flows are managed in an efficient way.
- Improved airport performance through operational cost savings from energy efficiency measures, enhanced controls and new plant and equipment.
- Achievement of real, verified emissions reductions gives further credibility to claims made by the airport in the public domain.
- Supports dialogue with stakeholders on reduction in emissions from sources that an airport can guide and influence.

BENEFITS OF PARTICIPATING AT LEVEL 3/3+

- Collaborative engagement with stakeholders helps an airport and its stakeholders move beyond compliance towards a more strategic and comprehensive approach to carbon management.
- Improved emissions performance and operational/cost efficiencies not only for the airport itself, but also for third parties responsible for emissions sources at the airport.
- Aligns airport with wider requirements for emissions reduction that may exist due to local planning conditions, thus supporting airport growth objectives.
- Differentiates the airport as a leader in the field of carbon management, by generating an enhanced public image and improved community relations.
- Reduced regulatory and litigation risks and enhanced planning and regulatory approvals.
- Increased shareholder value, brand reputation and stakeholder support.
- Airport sets its own carbon reduction agenda.

Altogether, accreditations in Europe and Asia/Pacific represent more than 17 per cent of worldwide passenger traffic. The expansion of the programme to Asia/Pacific, the fastest growing aviation market in the world, and to Africa mark a key moment towards the establishment of *Airport Carbon Accreditation* as a worldwide standard.

Going forward, our common role with States will also be to make passengers and communities aware of the results achieved under *Airport Carbon Accreditation*, so that the efforts of airport operators and their partners are known and understood. ■



Bengaluru Airport, accredited at Level 2 "Reduction"



Certification Ceremony at Brussels Airport in October 2010. From left to right: Mr. Siim Kallas - EU Commissioner for Transport, Mr. Olivier Jankovec - ACI EUROPE Director General, Arnaud Feist - CEO of the Brussels Airport Company, and Mr. Etienne Schouppe Belgian Minister for Mobility.

NEWS IN BRIEF



ICAO POLICY DOCUMENT PUTS RENEWED FOCUS ON CARE OF AIRCRAFT ACCIDENT VICTIMS AND FAMILY MEMBERS

The governing Council of ICAO has approved a new policy document that calls on its 191 Member States to reaffirm their commitment to support aviation accident victims and their families.

A resolution of the 32nd Assembly led to the publication of an earlier document on *Guidance on Assistance to Aircraft Accident Victims and their Families* (ICAO Circular 285, 2001). The Circular stressed that assistance to persons involved in aircraft accidents was an indisputable humanitarian duty.

Acknowledging recently that some States had been responding more slowly than envisaged with respect to incorporating related provisions into their respective legislations, the ICAO Council has now escalated the relevant guidance to the policy level.

"Through this decision, ICAO's Council Members have placed stronger emphasis on the need for States to take responsibility for the care of accident victims and their families," commented ICAO Council President, Roberto Kobeh González.

Signing by Burkina Faso of the Convention on Compensation for Damage Caused by Aircraft to Third Parties, done at Montréal on 2 May 2009 (GRC) and the Convention on Compensation for Damage to Third Parties, Resulting from Acts of Unlawful Interference Involving Aircraft, done at Montréal on 2 May 2009 (UICC) on 20 March 2012, at the Office of the Director, Legal Affairs and External Relations Bureau.



From left to right: Monsieur Abel Sawadogo, *Directeur Général de l'Agence Nationale de l'Aviation Civile (ANAC)*; Amb. Moumouni Dieguimde, Representative of Burkina Faso on the Council; Monsieur Jean Bertin Ouedraogo, *Ministre des Infrastructures, du Désenclavement et des Transports*; Mr. Benoit Verhaegen, Senior External Relations and Legal Officer, ICAO.

Deposit of instrument of ratification by the Republic of Congo to five protocols of amendment signed between the years 1962-1990, relating to Articles 48(a), 50(a) and 56 of the *Convention on International Civil Aviation, done at Chicago on 7 December 1944*, at the Office of the Director, Legal Affairs and External Relations Bureau on 20 March 2012.



From left to right: Monsieur Ferréol Gassackys, *Directeur de la Coopération au Ministère en charge de l'Aviation Civile*; Monsieur Serge Florent Dzota, *Directeur Général p.i de l'Agence Nationale de l'Aviation Civile (ANAC)*; Mr. Benoit Verhaegen, Senior External Relations and Legal Officer, ICAO; Monsieur Boris Makaya Batchi, *Directeur du Transport Aérien de l'Agence Nationale de l'Aviation Civile (ANAC)*; Monsieur Henri Okondza Azouangoli, *Coordonnateur National des Audits à l'Agence Nationale de l'Aviation Civile (ANAC)*.

EU/ICAO COLLABORATION EXPANDS TO INCLUDE NEW SECURITY PROVISIONS

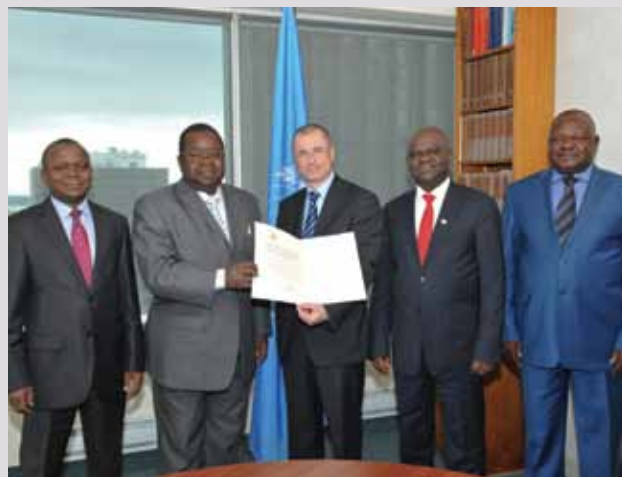
The Joint Committee of the European Union (EU) and the International Civil Aviation Organization (ICAO) met at ICAO's Montréal Headquarters on 18 March 2013, acting to adopt a new aviation Security Annex to their recently-established Memorandum of Cooperation (MOC).

"This new Security Annex formalizes important areas of deepening EU/ICAO cooperation, such as the exchange of relevant security information and available expertise, as well as the financing of specific security initiatives," stressed Raymond Benjamin, ICAO Secretary General. Benjamin served as co-chair of the meeting with Matthias Ruete, European Commission, Director-General for Mobility and Transport.

At its first meeting in 2011, the EU/ICAO Joint Committee adopted an aviation Safety Annex to their new MOC. It also established a working arrangement between the EU and ICAO in the field of accident and incident reporting. Based on discussions at this first meeting, as well as work undertaken in the interim period, EU and ICAO participants to the 18 March 2013 gathering also agreed in principle on two draft working arrangements developed to consolidate EU/ICAO safety oversight auditing efforts.

Though the Joint Committee's initial emphasis has been on formalizing the two organizations' aviation safety and security priorities, both sides expressed strong support for pursuing further collaboration in the other areas covered by their MOC, notably, Air Traffic Management.

Deposit of instrument of ratification by the Democratic Republic of Congo to the Protocol relating to an amendment to the Convention on International Civil Aviation [Article 83 bis], signed at Montréal on 6 October 1980 at the Office of the Director, Legal Affairs and External Relations Bureau on 21 March 2012.



From left to right: Maître Anatole Kanyanga Tshimanga, *Conseiller Juridique du Ministre des Affaires Etrangères, Coopération Internationale et Francophonie*; Monsieur Muaka Mvuzolo, *Directeur Général Adjoint de l'Authorité de l'Aviation Civile, Chef de Division*; Mr. Benoit Verhaegen, *Senior External Relations and Legal Officer, ICAO*; Monsieur Bilenge Abdala, *Administrateur Directeur Général a.i. de la Régie des Voies Aériennes*; Monsieur Bertin Ngaki Mungulu, *Directeur d'Exploitation de la Régie des Voies Aériennes*.

ICAO AND UNWTO AFFIRM COOPERATION ON JOINT AVIATION AND TOURISM GOALS

The International Civil Aviation Organization (ICAO) and the World Tourism Organization (UNWTO) have signed a special Joint Statement on Aviation and Tourism, acknowledging the intention of the two UN agencies to begin cooperating more closely on issues of common priority.

The Joint Statement was signed by ICAO Secretary General, Raymond Benjamin, and UNWTO Secretary General, Taleb Rifai, on the occasion of the official opening of the ICAO Sixth Worldwide Air Transport Conference (ATConf/6) in Montréal on 18 March 2013.

Visa facilitation, taxation, the modernization of aviation regulations and the development of convergent rules for traveller and enterprise protection were stressed in the Statement as key areas for improved collaboration.

Additional areas outlined for future cooperation by ICAO and the UNWTO included air passenger flow management at airports, air capacity for least developed countries and the continued reduction of environmental impacts resulting from international air travel and tourism. Due consideration will be maintained on the importance of air transport to tourism development in long-haul destinations and landlocked or island states.

Benjamin and Rifai concluded their ceremony by jointly highlighting the considerable contributions of aviation and tourism to raise employment, fuel economic growth and social development. Together, their organizations will now be focusing on addressing existing obstacles to aviation and tourism growth as to ensure both sectors continue to contribute in a sustainable manner to global prosperity.

POLAND HOSTS ICAO/CERG CONFERENCE ON AVIATION LAW



ABOUT THE AUTHOR

Małgorzata Polkowska Ph.D.
(Candidate for a representative of the Republic of Poland in the ICAO Council 2013-2016 Central European Rotation Group-CERG) is Deputy Director of Executive Office, Plenipotentiary for the CAA President in European and International Affairs.

✈ A Conference on Air Law was recently organized by the Polish Civil Aviation Authority¹ within the framework of regional ICAO conferences with the participation of the Polish Air Navigation Services Agency (PANSA) and the Polish Airports. The conference took place in Warsaw, Poland on 5-6 September 2012.

The air law conference was organized according to a tradition of organizing similar conferences in the CERG Member States (Central European Rotation Group²). This time it was organized in Poland – a candidate for the ICAO Council (2013-2016). Over 200 representatives of ICAO, EASA, the European Commission, EUROCONTROL, IATA, aviation authorities and aviation market representatives participated in the conference. Scientists were represented by researchers from the McGill Institute of Air and Space Law (Montréal), Bologna University, researchers from the University of Warsaw and experts and lawyers specializing in air law.

The conference was divided into three panels. The first panel lecturers discussed the current ICAO legislative work on aviation security. John Augustin, Acting Director, Legal Affairs and External Relations Bureau, ICAO, said that according to IATA statistics the number of unruly passengers increased between 2009 and 2010 by 30 per cent (per 1000 researched flights). The existing international aviation conventions cover only serious crimes, and therefore, cases qualified as passengers' unruly behavior are not regulated by international air law treaties. This situation is changing, however. In November 2011, for example, the ICAO Council decided to appoint a special subgroup whose task was to define issues which should be covered by a new regulation. Two further presentations (Dr. Jiefang Huang, ICAO Senior Legal Officer and Michael Jenninson of FAA) addressed the last ICAO convention (changing the Montréal Convention of 1971³) and aviation protocol (changing the Hague Convention of 1970) of Beijing 2010⁴.

The second conference panel was devoted to Unmanned Aircraft Systems (UAS). The rapid development of unmanned aircraft and their still broader exploitation in civil aviation make it necessary to regulate their legal status and rules. The discussion during the conference focused on the newest trends and directions of UAS law development. The presentations were devoted to European, international and national regulations.

Professor Anna Massutti (University of Bologna) emphasized the necessity of regulating, in civil and international public law, the UAS issue in common air space in order to remove unnecessary barriers hindering UAS development. She said it is important for the law to clearly define the liability rules for UAS and to establish legal procedures if damage is incurred to third parties. Massutti noted that it is also worth analyzing and adapting the applicable rules for manned aircraft so that they also cover the UAS. Michael Gerhard of EASA, in turn, told the conference that the UAS issue concerns many civil aviation aspects, and therefore UAS regulations will be introduced in stages, so that none of the aspects are omitted.



The ICAO activity connected with UAS was summarized by Dr. Huang who mentioned the ICAO UASSG study group activity. The group recommended to revise and consolidate the existing ICAO provisions on UAS. He also mentioned an ICAO document of 2011⁵ presenting the basic issues on UAS which, in two years, is to be replaced by a new manual. A very important milestone was the acceptance of standards on unmanned systems (RPAS – Remotely Piloted Aircraft System) by the ICAO Council. These became applicable on 15 November 2013. According to the standards, the unmanned system and its operator will have to be certified and the personnel licensed in order to minimize safety threats. The ICAO standards will be developed gradually and will be adopted in due course.

Maciej Rodak of PANSA referred to a practical functioning of UAS in Poland. He drew the participants' attention to Article 126 of the amended Act on Aviation Law⁶, according to which an unmanned aircraft should be equipped with the same equipment enabling flight, navigation and communication as a manned aircraft flying with visibility or according to instruments indications in a defined airspace class. Deviations applied in this respect for manned aircraft are equally applicable for unmanned aircraft. This Act also stipulates that international unmanned flights made by foreign aircraft require a permit issued by the President of the Authority in consultation with appropriate military authorities.

The third panel concerned the development of Safety Management Systems (SMS) in civil aviation. SMS is of a special importance because its main aim is prevention and an attempt to decrease the possibility of aviation accidents and incident occurrences, as well as a decrease of harm to the environment and property. SMS is a strategic response to risks occurring at all levels of aviation organization – national, EU and international entrepreneurs. Much attention was devoted to Annex 19 (to become applicable in November 2013) to the Chicago Convention of 1944 and to the issue of transferring, transparency and legal protection of information on aviation safety. During the Conference, it was also reiterated that the EU law imposes an obligation on entities carrying out their activities in the area of civil aviation to have safety management systems.

Lecturers presented topics connected with safety management from the international, European and national points of view. The basic task of the panel was a thorough analysis of all ICAO annexes, suggesting changes, inclusive of adding regulations on safety management. Professor Paul Dempsey (McGill Institute of Air and Space Law) focused on the ICAO SMM (*Safety Management Manual* – ICAO Doc. 9859), whose aim is the implementation of a State Safety Programme (SSP) by the States. He also discussed the four SMS components: safety policy, risk management, ensuring safety and its promotion.

Valerie Grey of the European Commission, speaking about European actions connected with developing an SMS, pointed out that there are currently no common legal bases in Europe for SMS functioning. Moreover, she noted, one cannot be sure if the States want to create such a system. In a European Commission communication of 2011 (2011, 670 final) there were some premises included for building a safety management system in Europe. The lecturer stressed that in order to ensure the safety of Europe, common effort and close cooperation of States is necessary so that a system as effective as possible can be created. A representative of EASA presented issues connected with protecting data on aircraft accidents and transferring information on aircraft accidents. Frank Manuhutu of EASA stressed that it is hard to decide which data on aircraft accidents may be transferred and which may not, which data should be protected and how. He stressed that it is also important not to lose public trust in the process of data exchange.

John Illson, Chief of ICAO's Integrated Safety Management Section, provided a presentation on a new Safety Management Annex to the Chicago Convention, which includes international requirements related to State safety programmes and safety management systems. Dr. Jonathan Aleck, Associate Director of Aviation Safety for the Civil Aviation Safety Authority of Australia and Chair of the ICAO Safety Information Protection Task Force, provided a summary of the Task Force's work on provisions to ensure the appropriate use and protection of information used in safety management processes.

The Air Law Conference in Warsaw was a good opportunity to exchange experience and views on the most crucial challenges faced at present by civil aviation. It was very beneficial that in the conference participation included not only scientists but also practitioners and experts of international aviation organizations. One can hope that such legal conferences on aviation, gathering such famous experts from all around the world, will be organized in Poland more frequently. ■

FOOTNOTES

- ¹ The Polish Civil Aviation Authority (CAA) is the central-level regulatory authority responsible for civil aviation, state budget-funded, which employs more than 360 people. The 15th of October 2012 Cpt. Piotr Ołowski was nominated by the Minister of Transport, Construction and Maritime Economy as the President of the CAA.
- ² Besides Poland, the CERG Member States include: Bulgaria, the Czech Republic, Romania, Slovakia, Slovenia, Hungary and Greece, which is a candidate.
- ³ A Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation drawn up in Beijing on 10 September 2010 (ICAO Doc 9960).
- ⁴ Protocol supplementary to the Convention for the Suppression of Unlawful seizure of Aircraft drawn up in the Hague on 16 December, 1970 of 10 September 2010, Beijing (ICAO Doc 9959).
- ⁵ Unmanned Aircraft Systems (UAS), Cir. 328 AN/190, ICAO 2011.
- ⁶ Act on Aviation Law of 3 July 2002 (O.J. of 2006, N^o100, item 696 with further amendments).

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