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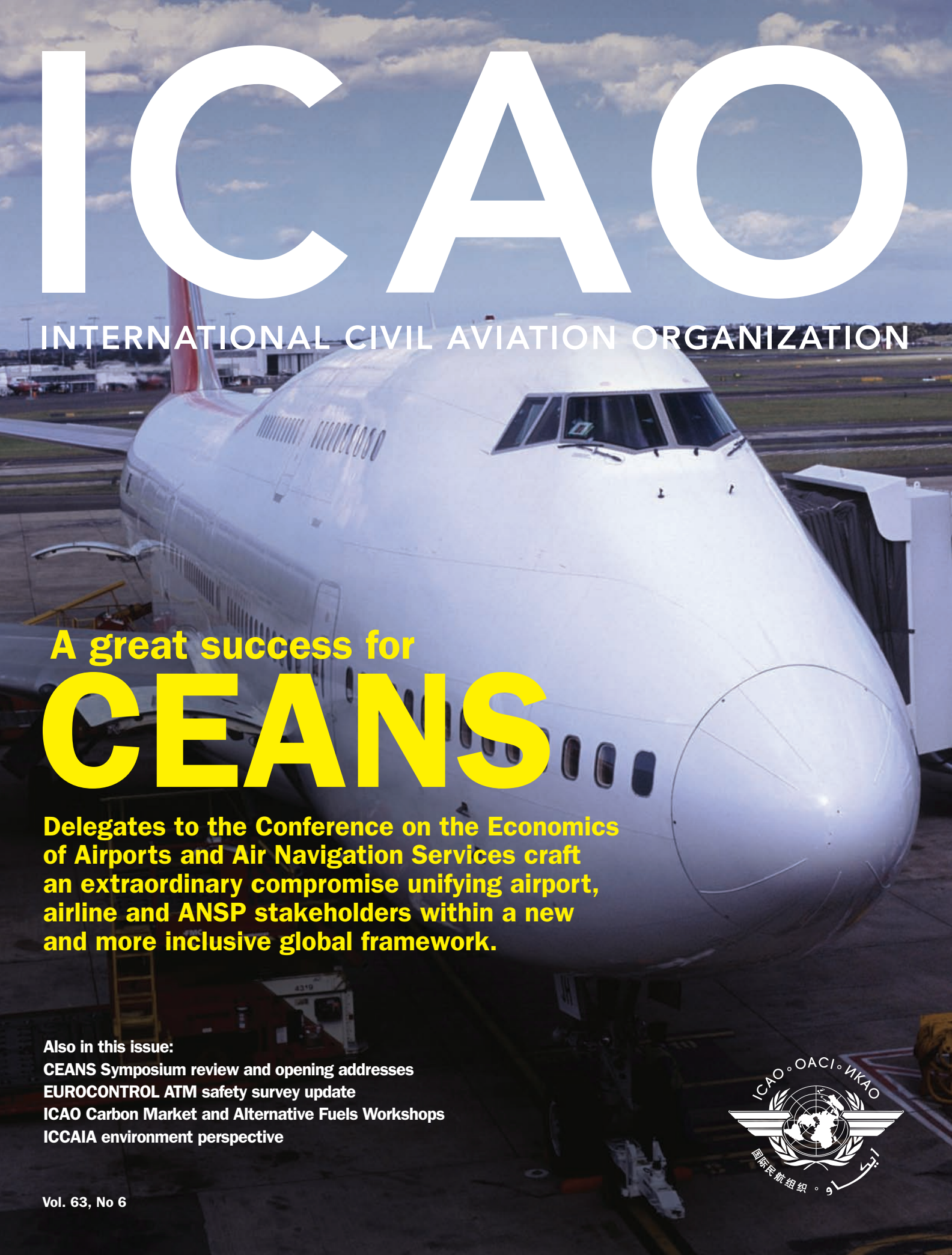

A great success for CEANS

Delegates to the Conference on the Economics of Airports and Air Navigation Services craft an extraordinary compromise unifying airport, airline and ANSP stakeholders within a new and more inclusive global framework.

Also in this issue:
CEANS Symposium review and opening addresses
EUROCONTROL ATM safety survey update
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Vol. 63, No 6

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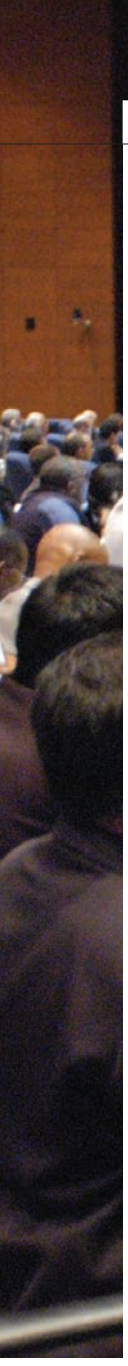
CEANS:
A uniquely collaborative success highlights ICAO's important global role



Approximately once every decade, State delegates and specialists representing airports, Air Navigation Services Providers (ANSPs) and users of airport and air navigation services get together to discuss approaches to the infrastructure, economic and management issues that underpin global aviation operations.

In this *Journal* review, members of ICAO's Economic Policy and Infrastructure Management Section, as well as State and industry participants, discuss the challenges and successes that formed the highlights of the recent Conference on the Economics of Airports and Air Navigation Services (CEANS), held in Montreal in September 2008. The Conference adopted 15 recommendations calling for actions by Member States or ICAO.

The Conference on the Economics of Airports and Air Navigation Services (CEANS) was convened at the headquarters of ICAO in Montreal on September 15, 2008. Roberto Kobeh González, President of the Council, opened the Conference, which was also addressed by Saud A. R. Hashem, Chairman of the Air Transport Committee. ICAO's Secretary General, Taïeb Chérif, welcomed the participants and introduced the Conference Secretariat. Folasade Odutola, Director of the Air Transport Bureau, served as Secretary of the Conference, and John Begin, Deputy Director of the Air Transport Bureau, acted as Advisor to the Conference.

Since its first incarnation as the *Airport Charges Conference* in 1956, deliberations at these Conferences have been instrumental in defining the broader scope and purpose of ICAO's policies on charges for airports and air navigation services. This year's Agenda was no less ambitious in as much as the agreements that they sought demanded an entirely new degree of collaboration and cooperation from States, regulators, airports, ANSPs and users than has previously been in evidence.

The goals of the Conference focused on three key and inter-related topics: economic oversight; performance management; and consultation with users. Taken together, the Conference recommendations on these issues are expected to engender the increases in efficiency and cost-effectiveness that are currently being sought by all State and industry stakeholders.

"These were very high-level, even noble targets that we had set for the industry and ourselves going into this event," commented Östen Magnusson, Chief of the ICAO Economic Policy and Infrastructure Management Section (EPM) and Deputy Secretary of the Conference. "The fact that the CEANS participating States

CEANS Conference Chairman Dan Cogliati (third from right) is joined by Conference Secretary Folasade Odutola (second from left), Deputy Secretary Östen Magnusson (far right), ICAO Secretary General Taïeb Chérif (second from right), Roberto Kobeh González, President of the Council (third from left), and Saud A. R. Hashem (far left), Chairman of the ICAO Air Transport Committee.

achieved the consensus that was forged very much reflects an extraordinary outcome and truly a new benchmark for industry cooperation."

Given the very severe challenges now facing the industry, the need for this new level of collaboration and for this greater efficiency in the provision of airport and air navigation services has become more important than ever, Magnusson added. He commented that the eventual success achieved at CEANS should be seen as an indication that State and industry stakeholders alike have recognised the challenges ahead and the fact that ICAO's unique collaborative framework continues to be of invaluable assistance toward establishing consensus and forging new cooperative solutions to the benefit of all.

Daniel Cogliati, Senior Strategic Policy Advisor, Air Policy, Transport Canada, and Chairman of CEANS, shared Magnusson's opinion. Cogliati confirmed that CEANS was a success in that it strengthened the onus on States to follow the principles as set out in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082), while at the same time providing additional flexibilities to airports and ANSPs to carry out their responsibilities.

"The discussions on virtually all of the Agenda items were thoughtful, succinct and engaging, with well-reasoned arguments presented to frame the views of the participants," Cogliati continued. "I was also singularly impressed with the high rate of participation among the States that made it much easier to reach consensus on most issues."

"The three key topics of the Conference—economic oversight, performance management and consultations—together represent a holistic approach to increased cooperation in the industry, in particular between regulators, providers and users. If we can reach a common understanding on these three issues, and I believe we can, it will serve as a basis for adopting constructive conclusions and recommendations that will help us meet the goals of this Conference concerning cooperation and efficiency."

– Roberto Kobeh González,
President of the ICAO Council

Setting the stage: Airport, ANSP and user positions

Many of the world's airports, whether publicly or privately owned, are competitively positioned with other airport service providers in their particular regions, especially throughout Europe and North America where airport density is relatively high, and in Asia Pacific where airports vie for international transit traffic. For this reason the airport representatives at CEANS sought to

CEANS BY THE NUMBERS:

- 535 participants
- 103 Contracting States
- 17 international organizations
- 87 working papers
- 15 recommendations calling for actions by States or ICAO (of which 10 include proposed amendments to Doc 9082)

ensure that any regulatory proposals would not focus on exceptions but would look at the global airport situation in order to take the need for continued flexibility and competitive performance by airports into account.

Although airports may enjoy natural monopolies in the areas they serve, in today's tough economic environment they vie fiercely for attracting airlines, new routes and new services. As is the case with any monopolistic paradigm, this can lead to local pricing and policy regimes that make it difficult for users to operate with required levels of economic viability. Thus users came into CEANS hoping to convince States of the need for greater regulation in airport service provision and pricing, while airport operators sought to avoid regulation because it would make it difficult for them to effectively compete.

The International Air Transport Association (IATA) was very pleased with the outcome of CEANS, noting that it provided a forum for a frank debate, and an opportunity for the industry to raise awareness on the crisis of the sector.

"Healthy airlines are essential to the future of the air transport value chain, including airports and ANS providers," commented Mike Comber, IATA Director of ICAO Relations. "This can be observed in the effect US traffic decline has had on airports, some of which have lost up to 25 percent of their flights."

Comber went on to note that ICAO's policies contained in Doc 9082 were created to establish a balanced air transport environment preventing abuse from eventual dominant positions that result from natural monopolies. A recent survey by the industry, however, has shown the level of adherence to these policies is far from satisfactory.

IATA Consulting

Delivering global ATM expertise worldwide

The International Air Transport Association is committed to promoting a safe, sustainable and environmentally responsible air transport industry. Leadership and continuous improvements are essential and form the basis of IATA's initiatives to support the industry's agenda. The key to success is clear vision, coupled with the tools, expertise and industry-wide commitment to shared goals.

These are challenging times as oil prices reach record levels. It is therefore more critical than ever to realize our shared vision of an efficient global ATM solution. With satellite-based technologies now appearing on board and on the ground, the CNS/ATM solution is progressively emerging – evidence that global harmonization is moving from vision to reality.

In keeping with our mission to represent, lead and serve the air transport industry, IATA has collaborated with ICAO and other industry stakeholders to promote a global ATM solution, while offering essential support to implementation efforts worldwide through our publications, training and specialized consulting services.

IATA Consulting is at the forefront of delivering this support, drawing on IATA's expert resources and global representation to implement vital ATM improvements at the regional level – such as the ADS-B program developed in cooperation with airlines, which offers improved surveillance, efficiency and cost-savings.

IATA's Air Traffic Management consultants – recognized leaders in technology transfer – provide the hands-on expertise needed to put these innovative solutions and programs to work on a global scale. They assist and advise air navigation service providers in modernizing ATM infrastructure, identifying the gap between existing equipment and the targets set by the ICAO Global Air Navigation Plan. This service is essential for optimizing the capabilities of existing systems while integrating new technology, which will ensure the most cost-effective solution is chosen.

As we move forward with the global plan, an ongoing challenge will be to successfully handle increased traffic volume and complexity – without compromising safety – while providing the flexibility airlines require. As aircraft have become less dependent on ground-based air traffic management systems, airlines are now looking for greater flexibility in route planning and fewer operational constraints in mounting flights.

To accommodate, air traffic controllers are employing new ATM tools and Performance Based Navigation procedures so that sophisticated onboard equipment can be used optimally. To assist in this area, IATA Consulting offers an RNAV/RNP Procedure Implementation Package in accordance with the ICAO Performance-Based Navigation Manual.

Technology alone, however, is not enough to build safe super highways in the sky. Since these airways must pass through several Flight Information Regions, close cooperation among regional states is needed to increase airspace capacity. A commitment to harmonize these regions in line with the ICAO Global Air Navigation Plan is essential; a sustained effort that IATA diligently supports and where progress continues.

For example, the Chinese Authorities – in collaboration with IATA – recently opened the Olympic Bypass, shortening the route by 60 nautical miles and saving approximately 83 thousand tonnes of CO_2. In 2006, China approved the IATA-1 route – cutting flight times between Europe and China – and last year, introduced Reduced Vertical Separation Minima (RVSM). These results are significant, since estimates state 6-12% CO_2 potential savings can be achieved through global ATM infrastructure improvement alone.

It is clear that to fully realize our global ATM vision, a coordinated effort at the regional level is needed. This is where IATA Consulting's many value-added services can be of significant benefit. With our ATM experts supported by over 80 offices worldwide, we can adapt solutions to fit regional considerations while incorporating international best practices for an optimal result. From ANS master planning, operational requirement analysis, and airspace design to SID/STAR procedures development, safety impact assessments and performance audits on environments, to ICAO SARPS, IATA Consulting ATM experts can help air navigation service providers meet their global ATM objectives.

IATA

For more information, please contact
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“ I have no doubt regarding the outcome of this Conference. The scene has been set for a constructive discussion and consideration of all the important topics on the Agenda will benefit immensely from the outstanding pool of knowledge and experience that you bring to this Assembly Hall. I want to thank you in advance for this essential contribution and assure you that your comments and recommendations will receive the greatest attention during the work of ICAO’s Air Transport Committee, over which I have the honour of presiding, and which has been tasked with proposing follow-up measures to this Conference.”

– Saud A. R. Hashem, Chairman of the Air Transport Committee

“It is the airlines’ understanding that the greatest benefits to air transport would come more from a proper implementation of the ICAO policies than detailed changes to the existing Doc 9082 text,” Comber elaborated. “We therefore focused IATA’s efforts on measures that could increase awareness of, and compliance with ICAO policies by more States and also improvements in policies on some key elements. The recommendations from CEANS, together with some enhancements to the Doc 9082 text, will be essential in restoring the balance between stakeholders in the air transport value chain, providing benefits to all concerned, especially the final user, the passenger.”

Airports Council International (ACI), meanwhile, welcomed the results of the Conference in regard to economic oversight and airport charges policies.

“It was important to recognise that economic regulation of airports will not be the rule, but is only to be applied under specific circumstances to remedy the risk of abuse of a dominant position,” noted Anne McGinley, Director of ACI’s ICAO Bureau. “Revenues derived from airlines are often not sufficient to cover the cost of aeronautical operations. This means that in many instances airline operations may be subsidised by passenger charges, passenger spending and commercial airport activities.”

McGinley added that recommending more and more stringent regulation in a policy that is globally applicable would penalise those airports that abide by current rules and intervene unduly in a system that widely works for the benefit of the airport industry.

“Giving airports more flexibility in modulating charges by raising the level of cost relatedness will enable them to apply charging schemes that cater to their specific needs and those of carriers,” she continued. “ACI supports the initiative of the Conference to

promote enhanced implementation of ICAO airport charges policies around the world."

ANSPs came to CEANS stressing the need for the common objective of increasing levels of performance management and consultation across the board.

"The crucial ANSP-related development agreed at CEANS was that States on the whole need to more actively apply business principles in the provision of their air navigation services," commented Magnusson. "Public sector bodies can sometimes suffer from inadequate implementation of basic efficiencies in their operations and provisions, as we're all aware, but at the same time it was noted and agreed that the underlying safety and security of the travelling public has to be maintained as the guiding priority in this area, and therefore adequately balanced with any newer and more commercially-oriented operational developments that may occur in this sector in the future."

CANSO, the Civil Air Navigation Services Organization, was very pleased with its level of involvement at CEANS, both as Platinum Sponsor and for its participation in the Conference discussions. CANSO's Secretary General, Alexander ter Kuile, presented a view on how States can support *Improvements in air navigation services performance*, which was the key theme of his speech. Ter Kuile explained that regulatory fragmentation was causing disjointed ATM service delivery, and argued that a seamless airspace required greater harmonisation of State regulatory practices, as "good air navigation services performance comes from good policy making."

CANSO's Chairman Ashley Smout, who also addressed the Conference prior to a CANSO evening reception, said he was "delighted with the high level of interest…expressed in the CANSO working papers and recommendations. We have once more underlined our credentials as the global voice of ATM, and look forward to working closely again with ICAO in the future, de-emphasising the need for intrusive economic regulation."

FIG 1: CEANS ATTENDANCE—MEMBER STATES

The following 103 Contracting States of ICAO were represented at the Conference.

Albania
Argentina
Armenia
Australia
Austria
Barbados
Belgium
Benin
Bolivia
Botswana
Brazil
Burkina Faso
Burundi
Cameroon
Canada
Cape Verde
Chad
Chile
China
Colombia
Costa Rica
Côte d'Ivoire
Cuba
Czech Republic
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Ethiopia
Finland
France
Gabon
Germany
Ghana
Greece
Guatemala
Guinea
Haiti
Iceland
India
Indonesia
Ireland
Italy
Jamaica
Japan
Kazakhstan
Kenya
Lebanon
Lesotho
Liberia
Libyan Arab Jamahiriya
Lithuania
Madagascar
Malaysia
Mali
Malta
Mauritania
Mauritius
Mexico
Mozambique
Namibia
Netherlands
New Zealand
Niger
Nigeria
Norway
Pakistan
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Senegal
Serbia
Singapore
Spain
Sudan
Sweden
Switzerland
Thailand
The Former Yugoslav Republic of Macedonia
Togo
Trinidad and Tobago
Tunisia
Turkey
Uganda
Ukraine
United Arab Emirates
United Kingdom
United Republic of Tanzania
United States
Uruguay
Venezuela
Viet Nam
Yemen
Zambia

Balanced results

In the end, the States who participated at CEANS achieved the harmonisation of these opposing viewpoints through inclusive recommendations that stressed the need for increased but minimal regulation tailored to specific local or regional requirements and circumstances.

"I believe the Conference was very successful and has created a solid foundation for a well-balanced revision of the ICAO policies on charges," noted Keld Ludvigsen, Director of Finance at the Civil Aviation Administration of Denmark, Chairman of the ICAO Air Navigation Services Economics Panel and Member of the ICAO Airport Economics Panel. "It created more flexibility for the service providers while at the same time placing focus on those areas where more commitment is required by States to assure the effective implementation of ICAO's policies."

"Of the three conferences of this kind I have attended," Ludvigsen added, "the CARFM in 1991, ANSConf in 2000 and now CEANS, the outcome of this conference was by and large the most well-balanced and considerate of all viewpoints and positions."

Toru Hasegawa, an economist in ICAO's EPM, noted that ICAO's proposal to the participating States, as reflected in the conference Agenda that was approved by the Council and presented in CEANS-WP/1, sought to balance these viewpoints while reaffirming the responsibility of States to perform their economic oversight function.

"It was the great success of CEANS that the level of cooperation needed to reach this balance was realised and that all the industry organizations in attendance each felt that their positions have been understood by the State decision makers and reflected in the final recommendations," Hasegawa commented.

"Overall, the results achieved at CEANS were quite balanced and all parties got something out of the process despite their seemingly opposing positions," added Julián de la Cámara, an economist in ICAO's EPM.

Bernard Peguillan, an economist in ICAO's EPM, went on to remark that the Conference agreed that four of the main ICAO policies on charges, namely non discrimination, transparency, cost-relatedness and user consultation, should be reflected in national legislation and in air services agreements.

"This does not include all the ICAO policies contained in Doc 9082," Peguillan clarified, "but, by reflecting these basic principles in the wording of their air services agreements, States could intervene when an airport or ANSP appears to have failed to apply them openly and fairly. This is a very important development."

"CEANS Working Paper 87," added de la Cámara, "as submitted by France (on behalf of the European Community and its Member States, the other State members of the European Civil Aviation Conference, and by the United States), notes that these four ICAO principles are already enshrined in the US/EU Air Transport Agreement, and encourages other States to include them in their air services agreements. This submission was a tremendous sign of support for the importance of ICAO's role in this process and accentuates the need for States to focus on the implementation of ICAO's policies on charges."

The Conference was also a good forum to establish the basis for the support needed concerning economic and organizational issues in the context of the implementation of ICAO's global air traffic management operational concept.

"One of the recommendations of the Conference calls on States to strive for the efficient and cost-effective implementation of the ATM operational concept—using the Global Air Navigation Plan as the planning document—through international cooperation and collaboration within the ATM community," added Hasegawa.

"We sincerely look forward to the sharing of views and experiences to better prepare us to reach the goals of CEANS, which include:
– ways and means of enhancing cooperation between various industry stakeholders,
– increase efficiency through better performance of service providers, and
– establish the basis for a continuous dialogue between users and providers."

– Taïeb Chérif,
Secretary General of ICAO

Stressing preparation and consultation

By the time the Conference wound-up on September 20, significant progress and success had been achieved. This was in part due to the understanding of all stakeholders that the industry must come together to meet the challenges they face effectively, but it was also due in large part to the consultation and planning that had gone into the development of the Agenda itself, as well as the important groundwork established during the pre-conference Symposium *(please see page 15 for more details on the Symposium and its outcome).*

"The programme we designed for the pre-conference Symposium was based on the CEANS Agenda—it included a series of primarily panels and speakers and was a tremendous exchange of ideas and viewpoints related to the topics that were going to be discussed the following week," commented Magda Boulos, an economist in ICAO's EPM, who was responsible for the organization of the Symposium. "Kotaite, who moderated the final panel discussion on the implementation of ICAO's policies, urged everyone in attendance to place a higher level of priority on the role of ICAO's policies on charges."

Kotaite's closing words at the Symposium, and their later impact on the Conference discussions, were also appreciated by Magnusson. "What Kotaite said during the Symposium was that the States need to give more 'teeth' to ICAO's policies," he added. "It definitely created a strong impression on the assembled delegates and, in the end, it is exactly what we have done. As my colleague has pointed out, we never would have reached the great outcome we enjoyed without the preparation that came before—including the Symposium discussions and also the two meetings of the ICAO two Economics Panels (airports and air navigation services) held in September 2007 and February 2008, where we began to prepare the topics to be raised in the Secretariat's Working Papers for the Conference."

FIG 2: CEANS OBSERVER DELEGATIONS

The following 17 Observer Delegations were in attendance at the Conference.

- Arab Civil Aviation Commission (ACAC)
- Airports Council International (ACI)
- African Civil Aviation Commission (AFCAC)
- Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA)
- Civil Air Navigation Services Organisation (CANSO)
- Central American Corporation for Air Navigation Services (COCESNA)
- European Commission (EC)
- European Civil Aviation Conference (ECAC)
- European Organization for the Safety of Air Navigation (EUROCONTROL)
- Interstate Aviation Committee (IAC)
- International Council of Aircraft Owner and Pilot Associations (IAOPA)
- International Air Transport Association (IATA)
- International Business Aviation Council (IBAC)
- International Transport Workers' Federation (ITF)
- Latin American Civil Aviation Commission (LACAC)
- Société Internationale de Télécommunications Aéronautiques (SITA)
- World Bank (WB)

In addition, the World Tourism Organization (UNWTO) participated in the Conference through the submission of a working paper.

The end result was a Conference that began with due respect and cordiality on the first day of proceedings, but which by the second day of discussions witnessed a dramatic rise in the level of willingness and desire on behalf of the delegates to move aviation forward and contribute to it at this time.

"The key to events of this type is to try and ensure that everyone feels as if they have attained and achieved their objectives—or at least a large portion of their objectives," concluded Folasade Odutola, Director of ICAO's Air Transport Bureau. "As you can tell from the various responses from State delegates and industry organizations this is precisely what was achieved. From that standpoint CEANS has been an unqualified success."

The recommendations that have emerged from CEANS for States and for ICAO, including proposed amendments to Doc 9082, will be considered by the ICAO Council during the Autumn Session.

To review the full text of the Conference Report please consult it on the ICAO Web Site at: www.icao.int/ceans. ■

Saud A. R. Hashem Chairman, Air Transport Committee

Ladies and gentlemen, on behalf of the Air Transport Committee of the ICAO Council, let me also welcome you to this Conference on the Economics of Airports and Air Navigation Services.

One of the fundamental characteristics of today's global air transport system is that it continues to be made available to an increasing number of people in all regions of the world. When the *Convention on International Civil Aviation* came into force in 1947, there were some 21 million passengers on the world's airlines. Some 60 years later, there are more than 2 billion on scheduled flights alone, in a liberalised marketplace that seems light years away from the regulated environment of the 1940s.

Democratisation and expansion of air travel flows naturally from Article 44 of the Chicago Convention which calls on ICAO to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport so as to "Meet the needs of the peoples of the world for safe, regular, efficient and economical air transport." It is, after all, a question of equity among human beings and in the use of the planet's resources that air transport be accessible and affordable to as many people as possible. We would not have it any other way and despite the challenges that we face today, with the rising cost of fuel, environmental issues, airport and airspace capacity constraints and others, we will pursue our drive for optimum safety, security, sustainability and efficiency. To a large extent, the future progress of our global society depends on the operational and financial health of the air transport industry.

In his opening address, the President of the Council focused our attention on what he feels are three key topics that are the essential to the success of our meeting. I totally agree with him that it is through the nature and scope of our conclusions and recommendations on economic oversight, performance, and consultations that we will be able to help shape the future direction of the industry. Beyond that, there are a number of other critical items on the Agenda of the Conference and I would like to take a few minutes to review them as a prelude to our discussions starting this morning.

As I do so, I will reiterate some of the vital comments made by Mr. Kobeh, especially with regards to Agenda Item 1.

The first one deals with economic oversight and underscores the responsibility of States to protect their citizens from the risk of abuse from the dominant position that airports and air navigation services have. This responsibility must be clearly reflected in national aviation legislation. On the question of performance management, for example, the intention behind the proposals before this Conference is not to establish overly prescriptive rules but rather to put forth the notion that service providers implement performance management systems where the choice of performance indicators is made at the regional and/or national level, so as to take into account local conditions and circumstances. Without proper performance measuring criteria, it would be difficult for service providers to claim any improvements in efficiency.

Another important issue is that consultations with users are non-existent in many countries. All cooperation is based on a mutual understanding of each others' concerns and the only way to develop such an understanding is through ongoing dialogue. I think the time is ripe for this Conference to propose including passengers in the overall consultation process. This is in addition to what is proposed in the Secretariat working paper on this topic.

As we move on to Agenda Item 2, the Conference will deal with subjects related to airport economics and management. Concerning management of airports, we will need to look at the separation of regulatory and operational functions and the need to ensure good governance using best practices. We will also debate what should be a reasonable return on assets for airports, within the context of their dominant position.

A number of new trends in charging practices will be brought up for review, such as the allocation of costs on a per passenger basis and the application of differential charges with respect to introductory discounts for new services and low-cost carriers. There is also the availability of access to airport facilities, which has the potential of unfair treatment or discrimination. Here we have to remember that users other than air carriers have a legitimate right of access to airports. ICAO's policies clearly stipulate that charges levied on international general aviation should be assessed in a reasonable manner, with the goal of promoting the sound development of international civil aviation as a whole. When it comes to cost recovery of security measures, we will review current policies and see how we can achieve a more harmonised application of the policies on airport security charges worldwide.

The management and governance issues are equally important in the provision of air navigation services, particularly with respect to the separation between regulatory and operational functions. Because financing of air navigation infrastructure is still a problem in many parts of the world, emphasis must be placed on further promoting ICAO's policies on the establishment of autonomous entities to operate the services. Under Agenda Item 3 we will get into details, such as the evolution of service provision in the areas of approach control and area control regarding, including requirements from users on preferred flight trajectories and how this may affect charges. The aircraft weight element in the route charging formulae is also on the Agenda, as is ICAO's work in the economic field and how it can support the implementation of the global Air Traffic Management (ATM) concept.

Finally, under Agenda Item 4, we will assess the risk inherent in low awareness within commercialised and privatised airports and ANSPs concerning ICAO's policies and guidance material in the economic field. We will try to identify possible options for increasing awareness of the policies and their implementation by States and their service providers.

Over the years, with your assistance, ICAO has established a solid base of policy and guidance material for use by all parties of the aviation community. This has helped them deal effectively with the economic and organizational issues associated with the provision and operation of airports and air navigations services. We have *ICAO's Policies on Charges for Airports and Air Navigation Services*, the supplementary guidance in the *Airport Economics Manual* and the *Manual on Air Navigation Services Economics*, to name but the most obvious ones. These are all published on the ICAO website and are available free of charge to service providers and all other interested parties. Our common objective over the next week will be to review and validate the policy guidance in light of the changing operating environment and the challenges we face.

I have no doubt regarding the outcome of this Conference. The scene has been set for a constructive discussion and consideration of all the important topics on the Agenda will benefit immensely from the outstanding pool of knowledge and experience that you bring to this Assembly Hall. Your presence in such great numbers is a clear indication of the importance you attach to the topics we will be dealing with and it shows your dedication to the aviation community. I want to thank you in advance for this essential contribution and assure you that your comments and recommendations will receive the greatest attention during the work of ICAO's Air Transport Committee, over which I have the honour of presiding, and which has been tasked with proposing follow-up measures to this Conference. ■

Roberto Kobeh González, President of the ICAO Council

It is a great pleasure for me to welcome you, on behalf of the Council and the Secretary General of the International Civil Aviation Organization (ICAO), to this Conference on the Economics of Airports and Air Navigation Services.

The first ICAO Conference on charges was held in 1956 and since then, five more have been held. Today, we undertake the seventh and our common objective is to review and validate the current policy guidance on charges. This Conference is obviously timely given the rapidly changing operating environment in which international civil aviation now finds itself. We face challenges of unknown depth and scope, such as the supply and price of oil, environmental issues and capacity constraints. In times such as these, it is essential that all parties come together and cooperate in adapting the air transport system to harsh new realities. Efficiency and cost-effectiveness must become our guiding principles as we move towards a financially healthy and sustainable industry.

This Conference is also timely because of the significant developments of the past decade in the organization and financing of service providers. The previous Conference in 2000 updated ICAO's policy guidance with respect to commercialisation and privatisation of airports and air navigation service providers. This Conference can build on recent experiences in this area and further develop policy guidance, so that States can deal effectively with essential regulatory matters related to charges and economic aspects of airports and air navigation services.

Commercialisation and privatisation of airports and air navigation services are part of the ongoing globalisation process and the liberalisation of the world's economies.

Whether privatised or not, however, a significant number of service providers worldwide still do not fully recover their costs, according to studies undertaken by ICAO. This has serious implications, compounded by the consistent growth of air transport, which has and will continue to place increasing pressure on States to finance the expansion or renewal of airports and air navigation facilities and services in order to overcome or prevent airport and airspace congestion. The picture becomes more complicated when we consider the challenges I mentioned earlier and how they may adversely affect the global demand for air transport.

According to the *Convention on International Civil Aviation*, States are ultimately responsible for aviation safety and security in their airspace. They are also responsible for ensuring that services are provided in accordance with ICAO

Standards, recognised as crucial to the safety and security of international air navigation.

In addition, when considering commercialisation or privatisation of airports or air navigation service providers, States should bear in mind that economic oversight is the responsibility of the States as well. The objective is to prevent abuse from what has been referred to as the "natural monopoly" of a service provider. A State's economic oversight responsibility can be exercised in several different ways, from a "light-handed" approach to more direct regulatory interventions in the economic decisions of service providers, for example through the establishment of a regulatory mechanism. States will have to select the most appropriate form of economic oversight according to their specific circumstances. When deciding how to exercise their economic oversight function, States should take into consideration the degree of competition between service providers, the costs and benefits related to alternative oversight forms, as well as the legal, institutional and governance frameworks.

The need for more direct regulatory interventions may be reduced where appropriate mechanisms for consultation with users have been implemented and where cooperative arrangements between providers and users are in place. With the enormous challenges before us, I am convinced that taking cooperation in the industry to another level is absolutely necessary.

The current ICAO policies on charges prescribe consultations only on an *ad-hoc* basis in the context of increases in charges and major infrastructure development plans. However, consultation should be an ongoing process and it may even take up to a couple of years to get it established, since a number of meetings are needed to achieve mutual trust and develop a constructive dialogue. We will therefore need to strengthen ICAO's policies on consultation with users and require the establishment of permanent mechanisms for consultations where no voluntary arrangements between providers and users exist. Such consultations should include representatives of all user categories operating at the airports or in the airspace concerned.

Closely related to economic oversight and consultations with users is the issue of the performance of service providers. Since performance management is an important tool for service providers, regulators and users, States should ensure that, within their economic oversight function and through the consultation process, appropriate performance management systems are developed and implemented by their service providers.

These three key topics of the Conference—economic oversight, performance management and consultations—are interrelated and together represent a holistic approach to increased cooperation in the industry, in particular between regulators, providers and users. If we can reach a common understanding on these three issues, and I believe we can, it will serve as a basis for adopting constructive conclusions and recommendations that will help us meet the goals of this Conference concerning cooperation and efficiency.

Having said that, I realise that ICAO's policies on charges differ in status from the provisions of the Chicago Convention, in that a Contracting State is not legally bound to adhere to the policies. With the commercialisation and privatisation of airports and air navigation services, there is a risk of less awareness of ICAO's policies in the economic field, which could lead to diverging approaches to user charges and taxation. For example, the economic characteristics and capacity limitations of airports and air navigation service providers, combined with the liberalisation of air transport services have, in certain circumstances, given rise to questions regarding the application of the non-discrimination principle in Article 15 of the Chicago Convention and the application of equitable cost-recovery practices. It is therefore important to emphasise that since the policies are based on recommendations of major international conferences, like this one, States are morally committed to follow them. States should recognise that non-adherence to ICAO's policies on charges undermines the efficient and cost-effective provision and operation of airports and air navigation services, as well as the relationship with users, in particular with respect to transparency and the fair treatment of different categories of users. States should, therefore, ensure that their service providers adhere to ICAO's policies and report to ICAO any deviations from the adherence to these policies.

It is an honour for me to declare open this Conference on the Economics of Airports and Air Navigation Services. In his address, Saud A. R. Hashem, Chairman of the Air Transport Committee and Representative of Saudi Arabia on the Council, will provide us with additional details on the Agenda of the Conference.

The Council of ICAO is looking forward to your recommendations with great anticipation and will take very seriously your suggestions on how best to enhance its policy guidance on airport and air navigation service charges, as well as on other aspects of airport and air navigation services, economics and management.

If the views expressed at yesterday's pre-Conference Symposium are any indication, I am very confident that this conference will be a very productive one indeed. ■

Taïeb Chérif ICAO Secretary General

I am delighted to welcome you all to Montreal and to ICAO for this pre-Conference Symposium that will set the stage for what I believe will be a milestone Conference on the Economics of Airports and Air Navigation Services.

Our last Conference on charges was held in 2000 and resulted in recommendations to address the new realities of the 21st century. The focus then was on a commercial approach to the management and operation of airports and air navigation services, coupled with specific financial and managerial guidelines as well as economic oversight. The intention was to develop a strategy to cope effectively with the consistent growth of air traffic worldwide.

This recognised the fact that the commercialisation of airports and air navigation services had led to a marked improvement in overall management practices, with more incentives to be profitable and increased revenues to keep pace with the demand for investments in infrastructure, all the while enhancing aviation safety and security.

The strategy also was inline with the ongoing globalisation process, the liberalisation of the world's economies and the trend toward privatisation of commercially-oriented industries and services previously managed by States.

Eight years later, the fundamental wisdom of that approach is still valid. The air transport industry, however, has gone through enormous changes and stands on the threshold of one of the most profound transformations in decades. Rapidly escalating fuel prices are creating a situation reminiscent of the first oil shocks of the 1970s when fuel was the largest operating expense by far for airlines. Softening demand for services, filings for bankruptcy protection, outright failures or national and transnational mergers hold the potential for significantly restructuring the industry. The slowing global economy, food shortages and rising inflation are adding fuel to the fire. Security concerns were not what they used to be prior to the events of September 11. Finally, environmental challenges are contributing to an operating environment that has rarely been seen before.

This is the context in which we find ourselves today as we prepare to review and update our polices on such vital issues as the economic oversight of airports and air navigation services, economic performance management, cooperation and consultation, and of course, charges.

Given the scope and substantive nature of these items, it is our hope that this pre-Conference Symposium will make it easier to consider them in a more holistic perspective. It is also our hope the informal setting of the Symposium will generate the kind of free-flowing exchanges that can allow everyone here to gain a broader understanding of the issues at play.

Again, we are delighted that you are here with us. We sincerely look forward to this sharing of views and experiences to better prepare us to reach the goals of the Conference, which include the ways and means of enhancing cooperation between various industry stakeholders, increased efficiency through better performance of services providers, and establishing the basis for a continuous dialogue between users and providers. ■

Invaluable preparations form basis for CEANS Conference success

A pre-conference Symposium focusing on the topic of *"Challenges for Airports and Air Navigation Services"* helped participants to the Conference on the Economics of Airports and Air Navigation Services (CEANS) set the scene and focus their attention on key issues that were to be addressed at the later Conference. Eminent speakers, panellists and moderators from the aviation industry lead stimulating discussions and participants obtained information and clarification regarding these issues. The format consisted of five sessions on different, albeit inter related topics, on the major challenges facing airports and air navigation services providers.

The Symposium was an integral building block for the discussions of CEANS but was procedurally conducted as an independent event. Vijay Poonoosamy, Vice President, International Affairs of Etihad Airways, served as Moderator of the Symposium.

Symposium Session 1: Setting the scene

Two presentations were made on this topic: One on liberalisation of air transport, its effect on markets and the challenge for regulators to strike a balance between the needs of providers and users; the other concerned challenges regarding capacity of airport and air navigation facilities. The Symposium concluded that all stakeholders of the air the transport system have to develop more effective means of cooperation to find relevant solutions and create the foundation for increased efficiency and improved cost-effectiveness by service providers.

Symposium Session 2: Economic oversight of airports and air navigation services

Five panellists (two regulators, one provider and two user organizations) presented their views regarding economic oversight of service providers. The two regulators described their role in exercising the economic oversight of airports and air navigation services in their respective States (one applies economic regulation, the other competition rules). The airport provider defended the view that many airports compete with each other to attract traffic, while the users' representatives took the view that airports and air navigation services providers (ANSPs) are in essence natural monopolies that should be subject to economic regulation as a proxy for the lack of competition.

Following the panel discussion, there was general agreement that the objectives of economic oversight (a State responsibility) are to prevent the potential risk that a service provider could abuse its dominant position, to ensure non discrimination and transparency in the application of charges, and to ascertain that capacity meets future demand.

Symposium participants agreed that there should be a balance between public policy objectives and the efforts of the autonomous/private entities to obtain the optimal effects of commercialisation or privatisation. However, in view of the different approaches to economic oversight presented by each panellist, the Symposium felt that the most appropriate form of economic oversight should be selected according to specific circumstances, taking into account the degree of competition of the service providers, the costs and benefits related to alternative oversight forms, as well as local legal, institutional and governance frameworks.

OBJECTIVES OF ECONOMIC OVERSIGHT BY STATES

1. To prevent the potential risk that a service provider could engage in anti-competitive practices or abuse its dominant position.
2. To ensure non discrimination and transparency in the application of charges.
3. To ascertain that capacity meets future demand.

MAIN FINDINGS OF THE CEANS SYMPOSIUM

1. Economic oversight is the responsibility of States and they should select the most appropriate form of economic oversight according to their specific circumstances.
2. Appropriate performance management systems should be developed and implemented by service providers.
3. It is fundamental to maintain effective consultative processes in order to establish the foundation for sound cooperation between providers and users.
4. States should ensure that their service providers adhere to ICAO's policies so as to enhance the efficient and cost-effective operation of airports and air navigation services, as well as their relationship with users.

Symposium Session 3: Economic performance management

Following an overview of the work done by ICAO in the area of economic performance of service providers, two presentations were made by an airport organization and an air navigation services organization on how to assess economic performance for airports and ANSPs, respectively.

Both presentations emphasised that performance management can serve to improve the safety, quality of services, productivity and cost-efficiency of airports and ANSPs—in addition to supporting investment decisions. While the air navigation services organization emphasised the value of benchmarking, the airport organization stated that caution should be exercised when benchmarking airports, because of the many differences in traffic volume and size, accounting systems, financial situations, and the outsourcing of many airport services.

It was concluded that States should ensure, within their economic oversight responsibilities, that appropriate performance management systems are developed and implemented by their service providers. The discussion also centered on the kind of data that would be fundamental for performance reporting. In this respect, the determination of what indicators to use would have to be made at the regional and/or national level in order to take the specific conditions and circumstances of different Regions into account.

Symposium Session 4: Cooperation begins with consultation

Five panellists (two regulators, one provider and two user organizations) presented their views regarding the relationship between providers and users. There was general agreement that good relations between regulators, providers and users are important for the effective development of air transport, and that it is fundamental to maintain a consultative process and establish the foundation for sound co-operation between providers and users.

The Symposium also noted that the need for more direct regulatory intervention may be reduced where appropriate mechanisms for consultation with users have been implemented, or where voluntary cooperative arrangements between providers and users are in place. Given the different options available to improve the situation, greater cooperation in the industry is absolutely necessary with the challenges that aviation is facing today.

Symposium Session 5: The status of ICAO's policies on charges and taxes

This topic was approached from various perspectives by five panellists representing one international organization, a multinational air navigation services provider, two associations of service providers, and a user organization. The fundamental and important difference between a charge and a tax in terms of ICAO's policy approach was explained and all panellists stated their support for ICAO's policies on airport and air navigation charges.

It was noted, however, that States do not always fully observe ICAO's policies on charges, often because of a lack of awareness of and firm commitment by States to adhere to them. It was discussed that with the trend of commercialisation and privatisation (which lead to changes in the governance, ownership and control of airports and ANSPs) the situation may not improve.

The CEANS Symposium concluded that ICAO should take all relevant measures to ensure a widespread awareness and knowledge of its policies across States and the industry. It was also suggested that the main charging principles could be included in national legislation.

Symposium conclusions

There was general agreement at the Symposium that the three key topics discussed—economic oversight, performance management and consultation with users—are interrelated and should be considered as a single package. It was reinforced that proper application of the principles related to these three topics would contribute to improved cooperation in the industry in general and to increased efficiency for service providers.

International civil aviation faces many challenges and it is essential that all parties involved cooperate and move in the same direction to optimise the efficiency and cost-effectiveness in all the different components of the air transport system. ■

STATE PROFILE

Resourceful ROMANIA

Strategic gateway to Eastern Europe

Romania is a country with an extremely rich history and tradition of innovation in the field of aviation. Few people know that it was a Romanian scientist, Henri Coanda, who built the world's first jet engine in 1910 and consequently flew the first jet-powered aircraft, only a short time after man started to explore the skies in powered aircraft. This was long before the Germans further developed the jet engine and started using it on airplanes by the end of Word War II.

Ever leading the way, in the period between the two World Wars Romania was one of few nations in the world with its own aviation industry, producing more than 80 different aircraft models. Aircraft manufacturing continued in the years after World War II. Production included civil and military models of not only of Romanian origin, but also helicopters and large passenger aircraft built under licence in collaboration with Western manufacturers.

Romania has seen an explosive increase of flights over the past five years as a result of closer ties with the rest of Europe. It has justly enjoyed an increase in popularity as a key tourist destination. When Romania joined the European Union on January 1, 2007, doors opened on a whole new range of opportunities in the aviation sector, with both national and international airlines and other aviation companies having the opportunity to launch new flights and services.

An outward sign of Romania's renewed importance in aviation is that between 2003 and 2008 the number of arrivals and departures of commercial air traffic more than doubled. Also the number of aircraft overflying the country increased, confirming Romania's vital strategic position as a link between Europe, the Middle East and Asia. The Romanian capital Bucharest and other major cities throughout the country are finally being recognised not only in the world of business, but also as hugely popular and important city break destinations, receiving visits from tourists from all over Europe and beyond. This, combined with the increase of tourism from abroad to the various resorts along the country's Black Sea coast, is leading to an ever-growing number of passengers using the extensive network of airports in Romania.

With the spectacular increase in aircraft movements, Romanian airports have also seen a dramatic increase in the number of passengers: from 2.9 million in 2003 to 7.8 million in 2007, with most flights and passengers being handled during the months of July and August. The Romanian authorities have launched a campaign to modernise the country's airports with state-of-the-art facilities so that they can compete with any modern airport anywhere in the world.

An even more dramatic increase has been seen in the amount of cargo handled at various Romanian airports. Cargo volume increased from 13,000 tons in 2003 to almost 44,500 tons in 2007, earning the country a well-deserved prominent role in the world of logistics.

"Few people know that it was a Romanian scientist, Henri Coanda, who built the world's first jet engine in 1910 and consequently flew the first jet-powered aircraft, only a short time after man started to explore the skies in powered aircraft. This was long before the Germans further developed the jet engine and started using it on airplanes by the end of World War II."

With its population of around 22,000,000 and a surface of 92,000 square miles (238,000 sq km), Romania has a network of 16 commercial airports, the largest of which is Bucharest's Otopeni International Airport (ICAO code LROP). The airport is now also known as "Henri Coanda", named after the famous scientist. Otopeni is followed in aircraft movements and passenger numbers by Bucharest's second airport, Baneasa (LRBS), also known as Aurel Vlaicu and Timisoara (LRTR), in the southwest of the country near the borders of Hungary and Serbia. Both the capital's airports have seen a huge increase of aircraft movements over the past five years: Otopeni by some 75 percent, and Baneasa by even more than 110 percent.

The latter's spectacular passenger increase can mainly be traced to the introduction of services operated by so-called 'low cost carriers,' which have made air travel more popular and more accessible to a larger part of the population. In addition, the amount of executive and VIP flights has increased considerably following the growth of business traffic into and out of the country.

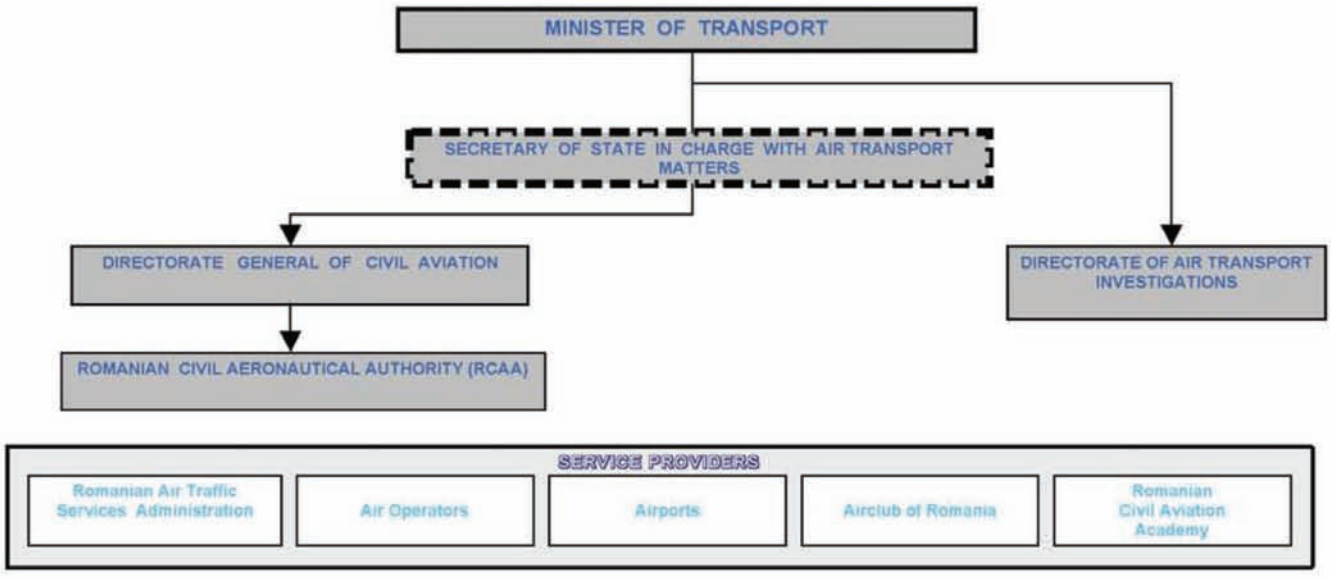
This excellent airport infrastructure not only gives access to most parts of the country by air, but also offers vital air links to remote communities throughout the country linking them to the capital, and the rest of Europe.

Fly safely in Romania

Romanian inventor Traian Vuia in the first European self-propelled heavier-than-air aircraft (1906).

Romania has been on the forefront of the aviation industry ever since Henri Coanda's ground breaking discoveries. Romanians have always been in the vanguard of aviation development and will continue to be so, embracing every opportunity and working hard to achieve even more outstanding results. With a great network and many fantastic projects in ongoing development, plus an impressive array of resources, the country is set to meet and exceed any challenges to come its way during the 21st century.

ORGANIZATION SCHEME of the ROMANIAN CIVIL AVIATION



The commercial airports in Romania are, in order of traffic data in 2007:

- Bucharest Otopeni (Henri Coanda)/LROP
- Bucharest Baneasa (Aurel Vlaicu)/LRBS
- Timisoara/LRTR
- Cluj/LRCL
- Tirgu-Mures/LRTM
- Iasi/LRIA
- Bacau/LRBC
- Sibiu/LRSB
- Constanta/LRCK
- Oradea/LROD
- Arad/LRAR
- Suceava/LRSV
- Baia-Mare/LRBM
- Satu-Mare/LRSM
- Craiova/LRCV
- Tulcea/LRTC

Projects are underway on three more airports to complement the existing network and further improve accessibility. Brasov, Galati-Braila and Deva-Alba Iulia, three major conglomerations that currently lack the air links enjoyed throughout the rest of the country, will in the near future have their own modern facilities. The new airports will help to bring prosperity to these regions and herald an even greater era of development.

The airports of Bucharest Otopeni and Baneasa, Timisoara and Constanta have runways with lengths of 10,500 feet (3,200 metres) or more, and can therefore receive the largest and heaviest aircraft in operation today.

Presence on the ICAO Council

In 1996, Romania was elected to the ICAO Council as a Member State of the Central European Rotation Group (CERG). Other CERG Member States include the Czech Republic, Hungary, Slovakia and Slovenia.

In 2007, Romania was re-elected to the Council by a high margin of votes. Romania considers this re-election as an acknowledgement of its ongoing commitment to pursue an active and

“ With the spectacular increase in aircraft movements, Romanian airports have also seen a dramatic increase in the number of passengers: from 2.9 million in 2003 to 7.8 million in 2007, with most flights and passengers being handled during the months of July and August.”

engaged role in the Council’s global aviation deliberations. The State strongly shares the Council’s objectives of ensuring the safety and security of global aviation, and of improving environmental performance at every opportunity.

The Romanian Ministry of Transport

Civil Aviation in Romania is regulated by the Ministry of Transport, whose subsidiary bodies are responsible for legislation, implementation and logistics.

The Ministry’s main objectives are:

- To implement ICAO and European standards with regards to safety, security, passenger rights and environmental issues in air transport.
- To modernise and develop airport infrastructure and the air traffic management system.
- To ensure safe, fluent and efficient air traffic management.
- To offer and facilitate free and non-discriminatory access to the air transport market within the current regulations.

The aviation activities of the Romanian Ministry of Transport are divided between two main bodies, namely the Directorate General of Civil Aviation (DGCA) and the Directorate of Air Transport Investigation (DATI).

The **Directorate General of Civil Aviation** (DGCA), under which the Romanian Civil Aeronautical Authority (RCAA) falls, is responsible for:

- Implementing government policies regarding civil aviation.
- Elaborating the civil aviation development strategy and monitoring its implementation.
- Coordinating the activity of civil aviation companies that are under the authority of the Ministry of Transport.

- Negotiating international agreements in the civil aviation industry.
- Representing the Romanian government in international civil aviation organizations.

The **Romanian Civil Aeronautical Authority** (RCAA) is a self-financed organization and forms the technical body responsible for the oversight of civil aviation safety. The RCAA is the National Supervisory Authority (NSA) for safety according to the Single European Sky regulations. Its main responsibilities are:

- Implementation of European standards regarding safety (airworthiness, airports, air traffic management, flight operations, licensing) and environment, and issuance of the related licenses, certificates and authorisations.
- Supervision of the application of civil aviation regulations (national, ICAO, JAA/EU & EASA, and Eurocontrol).
- Active participation in European Aviation Safety Agency (EASA) activities.

The **Romanian Civil Aeronautical Authority** is represented in several groups, programmes and initiatives, including:

- ICAO Universal Safety Oversight Audit Programme
- ICAO European Air Navigation Planning Group (EANPG)
- ICAO Route Development Group Eastern Europe
- ICAO Frequency Management Group
- ICAO All-weather Operation Group (AWOG)
- ICAO Meteorological Group

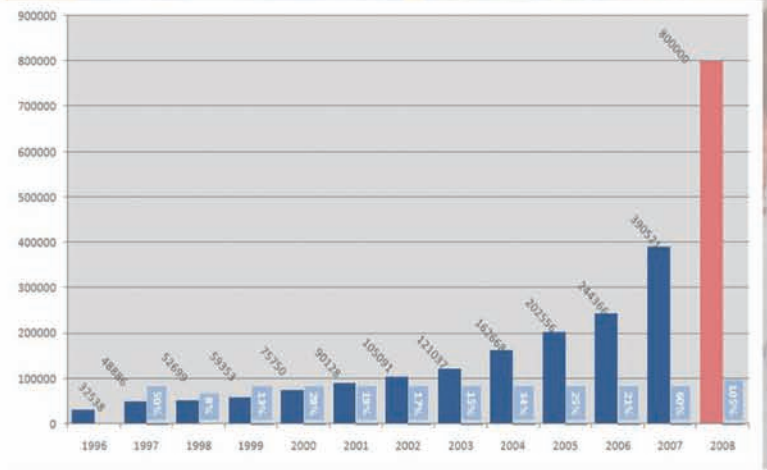
The Romanian Civil Aeronautical Authority is also active in various roles within JAA/EASA Eurocontrol and the Group of Airport Safety Regulators.

The Directorate of Air Transport Investigation (DATI), the second main aviation body under the Ministry of Transport, consists of an investigations department, data analysing department and logistics department and acts according to the legislation as stipulated under ICAO annex 13.

Its main functions and responsibilities include:

- Regulatory activities for non-security related accident and incident investigations.
- Direct investigation of all accidents and serious incidents.
- Management of mandatory occurrence reporting systems, as provided by ICAO (ADREP), EC (ECCAIRS) and Eurocontrol (TOKAY).

ROMANIA
Cluj-County Council
CLUJ-NAPOCA INTERNATIONAL AIRPORT



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Future plans include setting up an investigative agency which is independent from the Ministry of Transport, in order to increase efficiency and to avoid conflict of interest.

Air Traffic Control Services in Romania

Air Traffic Control services in Romania fall under the jurisdiction of the Romanian Air Traffic Services Administration (ROMATSA). This organization was founded in 1991 and provides Air Traffic Services (ATS) at commercial airports throughout the country as well as spanning all of Romanian air space.

ROMATSA operates a network of 16 control towers, ensuring a safe and expeditious operation of commercial air traffic at the airports, as well as three Area Control Centres (ACCs) located in Bucharest, Arad and Constanta. All its control centres are equipped with state-of-the-art technology and operated by qualified, skilled personnel.

Part of ROMATSA's responsibilities also include providing meteorological services for air navigation purposes. For this reason, the organization has a sophisticated network of meteorological stations throughout the country and collaborates closely with meteorological organizations in neighboring countries to provide the best service.

ROMATSA became ISO 9001:2000 certified in the year 2006, some of its departments already having received this prestigious qualification in the preceding years.

ROMATSA's commitment to achieve the highest possible standards of safety and quality is evident in its training programme for air traffic controllers and other professionals employed by the organization. ROMATSA not only offers in-house and on-the-job training, but also organizes initial and refresher courses for its employees in collaboration with prestigious institutions such as the National Air Traffic Services (NATS) in the United Kingdom and the Pan Am Academy in Miami, USA. The importance of a high proficiency level of aeronautical English for its personnel is also recognised, providing the appropriate courses at MLS International College in Bournemouth, UK in compliance with ICAO's linguistic standards.

ROMATSA is dedicated to offering air traffic services at the highest level and collaborating internationally to maintain and improve Romania's prominent role in the aviation industry. Great care is taken to ensure that the Romanian air traffic control services are completely compatible with the services of the neighboring nations, guaranteeing a smooth operation with a maximum level of safety and a seamless integration into the ATS network. The organization strives to strengthen its position on a Pan-European level within the Single European Sky project and also on a regional level with initiatives such as

"In 2007, Romania was re-elected to the Council by a high margin of votes. Romania considers this re-election as an acknowledgement of its ongoing commitment to pursue an active and engaged role in the Council's global aviation deliberations. The State strongly shares the Council's objectives of ensuring the safety and security of global aviation, and of improving environmental performance at every opportunity."

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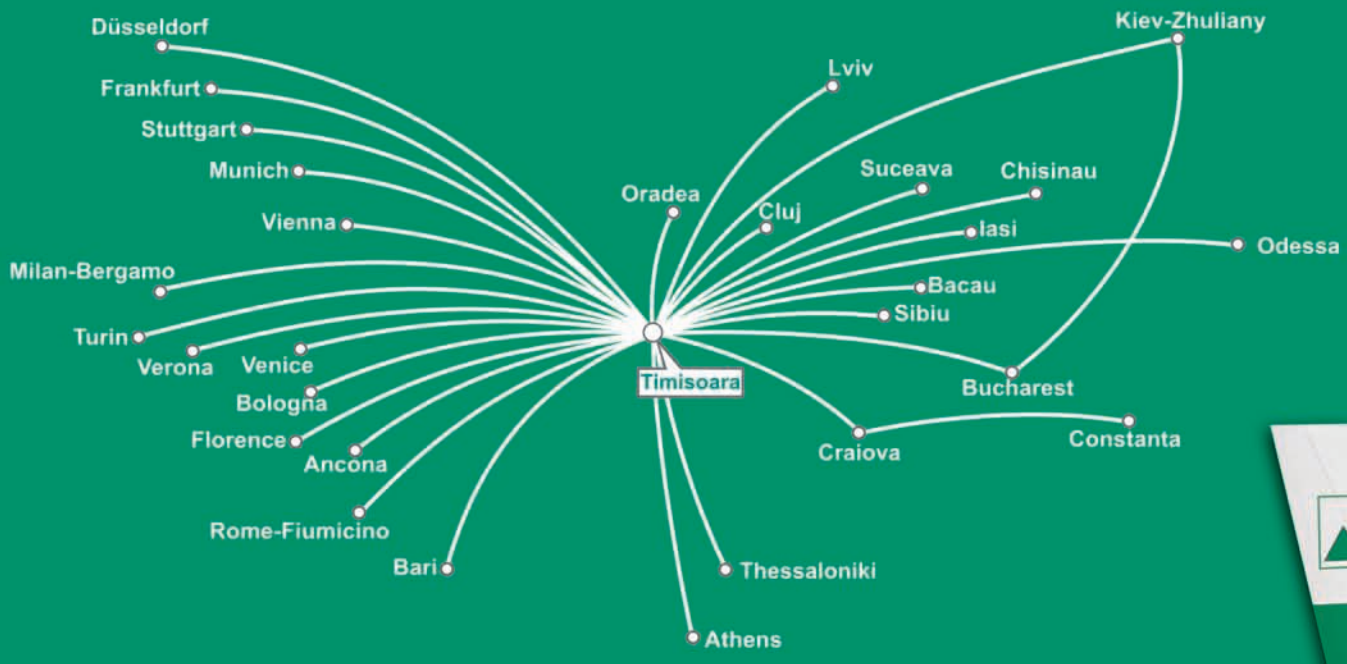

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Carpatair

Air Traffic Management Cooperation in South eastern Europe (ACE MoU). In July 2003, Romania signed a Memorandum of Understanding to this effect with its neighbouring countries Bulgaria, Moldova and Turkey to promote and further develop mutual collaboration. The project is supported by ICAO and Eurocontrol.

Aviation training in Romania

Backed by the Ministry of Transport, the Romanian Civil Aviation Academy was founded in 1999 with the goal of providing top-quality training for pilots, cabin crew and other aviation personnel including flight dispatchers.

The Academy started training the first batch of students in its first year, incorporating Cessna C172S aircraft into its fleet. The following year, the fleet was expanded with Piper PA34 twin-engined aircraft to facilitate the next step in the students' pilot training, and the Academy also incorporated a FRASCA simulator to safely train students in different ground procedures.

The first group of students graduated in 2002 with a frozen ATP(A) license, all of them having moved on to a successful career in the aviation industry. Many other students have since followed in their footsteps.

In 2005, the Romanian Civil Aviation Academy also incorporated the first state-of-the-art Eurocopter helicopters into its fleet. Based at Ploiesti Aerodrome near Bucharest, the Academy also operates air taxi services with its fleet of fixed-wing and rotorwing aircraft, and has its own maintenance department to maintain its own aircraft as well as third parties' —all to the highest possible standards.

Becoming a member of ICAO's TRAINAIR programme was the Academy's goal ever since it was established, a goal which became reality when the organization was accepted as a full member in 2007. By being part of TRAINAIR, the Romanian Civil Aviation Academy has received recognition for its excellence and high standards in aviation training. Participation also entails close collaboration with other well-respected training institutions and aviation organizations worldwide.

Security in aviation

As a responsible contracting nation of ICAO and a member of the European Union continually striving to improve its already impressive position within the international aviation industry, Romania closely collaborates with ICAO in a wide range of fields in the aviation industry.

An example of such collaboration is the ICAO Universal Security Audit conducted in June 2006, following the signing of a Memorandum of Understanding between Romania and ICAO the year before. ICAO conducts these audits to determine the member nation's level of adherence to its

BUCHAREST HENRI COANDĂ INTERNATIONAL AIRPORT

Bucharest Henri Coanda International Airport is a part of the great family of modern airport platforms. Its evolution means in fact a permanent development and modernization process with the purpose of synchronizing with the air traffic dynamics, with the more and more advanced performances of the aircraft industry and with passengers' exigencies. During almost 40 years of activity in the field of civil aviation, Bucharest Henri Coanda International Airport made important steps on the way of transformation from a local airport into an important air junction of the European air traffic network.

WHO WE ARE?

- the main Romanian airport (more than 60% of total passengers traffic in Romania)
- 2008 - OTP passengers traffic - triple than year 2000 and double than year 2005
  - OTP aircraft movements - double than year 2000
- ACI Europe Member since 1993

TECHNICAL DATA

- Operational capacity: 39 movements/hour
- 2 aircraft parking platforms with a total of 45 stands
- 2 runways:
  - 08R - 26L: 3500 x 45 m; CAT IIIB
  - 08L - 26R: 3500 x 45 m; CAT IIIA
- Fire fighting and rescue: CAT 9 ICAO ref. Annex 14
- Peak hour processing capacity:
  - international flights 2400 pax/peak hour
  - domestic flights 540 pax/peak hour

FACTS AND FIGURES

- Number of passengers in 2007: 4 978 587 pax
- Number of aircraft movements in 2007: 70 588 a/c
- Number of destinations in 2007: 53
- Traffic growth 2007/2006 - 41.7 % pax
  21.6 % mvts
- Traffic forecast 2008
  - OTP passengers traffic – triple than year 2000 and double than year 2005
  - OTP aircraft movements – double than year 2000
- Expected growth of passenger traffic in 2008: 25 %
- Expected growth of aircraft movements in 2008: 15 %

At the end of 2010, when Phase III of the airport development and modernization will be finalized, the passengers terminals final capacity will be as follows:

- Passengers total capacity: 4500 pax/peak hour
- 86 check-in desks, 24 boarding gates, 5 baggage belts(international / Schengen)
- 18 check-in desks, 8 boarding gates, 2 baggage belts (domestic / non-Schengen)
- Extended boarding area (Finger) up to 12 air-bridges (from 5 available in 2008).

Regular Member ACI

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“ By being part of TRAINAIR, the Romanian Civil Aviation Academy has received recognition for its excellence and high standards in aviation training. Participation also entails close collaboration with other well-respected training institutions and aviation organizations worldwide.”

Annex 17 standards and to act as a guide to even further improvements. This particular audit was conducted at the country’s largest airport, Otopeni Henri Coanda International in Bucharest.

The Romanian aviation authorities are committed to ensure the best possible security measures at all airports throughout the country in order to guarantee safety for passengers, crew and their aircraft, while also making sure that all procedures are adopted in the most efficient and cost-effective manner.

Romanian aviation and the environment

Environmental issues are among the major concerns today in every industry, and Romania is committed to contribute its share in the battle against the deterioration of the environment whenever and wherever it can. While the nation is delighted with its major progress in the aviation sector, the increased air traffic is also helping to increase ties with Romania’s neighbouring nations. This burgeoning growth is contributing considerably to Romania’s prosperity and well-being. The Romanian aviation industry has pledged to never lose sight of its responsibility in environmental issues, actively participating in any project to protect the environment while ensuring the safe and efficient development of its aviation industry.

Environmental measures not only include steps taken to reduce the impact of aviation on the natural environment, but also the effect of aviation on the inhabitants. Noise levels at and around airports are actively being monitored and minimised, including the implementation of night time flying restrictions. Romania’s aviation industry is tackling the issue of emissions to protect the air quality in airport vicinities and reduce greenhouse gas emissions, in an attempt to fight against the global climate change.

To this effect, the Romanian aviation authorities have implemented and will further develop regulations concerning noise restrictions, including the operation of aircraft which produce excessively high noise levels. It actively supports the introduction of newer technologies in aviation, such as quieter and more fuel-efficient engines, thus improving the environment and the quality of life for residential areas near airports in Romania.

Another major area in which Romania is an active and important contributing partner is the efforts to improve the flow of air traffic, maximise efficiency and minimise delays. Romania is also doing everything possible to improve air navigation services in such a way that flight times are minimised, and with that a substantial reduction in fuel burn and emission levels is achieved. It is achieving this high standard by managing air traffic capacity in the best way possible.

Conclusion

Romania has been on the forefront of the aviation industry ever since Henri Coanda’s ground breaking discoveries. Romanians have always been in the vanguard of aviation development and will continue to be so, embracing every opportunity and working hard to achieve even more outstanding results. With a great network and many fantastic projects in ongoing development, plus an impressive array of resources, the country is set to meet and exceed any challenges to come its way during the 21st century. ■

Verifying the maturity of our ATM safety frameworks

After two separate ATM incidents in Europe in 2002, EUROCONTROL commissioned independent surveys of European Civil Aviation Conference States' ATM Safety Regulators and Air Navigation Services Providers, to identify how well safety requirements were being met. EUROCONTROL's Peter Stastny, Alexander Skoniezki and Tony Licu, who together form the Implementation Coordination Group (ICG) for the European Safety Programme for ATM, discuss the success of these surveys and how they have evolved into an ongoing programme that has become a tremendous benefit to European ATM regulators and providers.

Alexander Skoniezki | Peter Stastny | Tony Licu

Throughout the 1990s and early years of the 21st century, European Air Traffic Management had developed in a safe and efficient manner through programmes established by EUROCONTROL on behalf of the European Civil Aviation Conference (ECAC). Indeed, Europe had an excellent record in ATM safety.

A serious accident at Milan's Linate Airport in October 2001 and a mid air collision at Überlingen in mid-2002, however, revealed that there was no room for complacency. It was decided as a result of these incidents that a comprehensive review of ATM safety systems in ECAC States should be undertaken. EUROCONTROL commissioned an independent survey of ECAC States' ATM Safety Regulators and Air Navigation Service Providers (ANSPs), to identify how well safety requirements were being met.

The objective was to provide a reference point for future development and analysis and, in particular, to identify areas where States and service providers needed support to enable them to meet new requirements. The surveys were not audits. Rather they were intended to provide an overview of how regulators and service providers saw their own system development.

The 2002 survey proved an extremely useful tool in understanding how well State regulators and ANSPs thought they were implementing ATM safety requirements. It also clearly identified the areas where support was required. The EUROCONTROL Provisional Council therefore decided to continue this form of self-assessment measurement, not only because it identified where support was required, but also because it allowed regulators and ANSPs the opportunity to pre-assess themselves ahead of EUROCONTROL and ICAO Audits.

Currently, the safety framework maturity measurement focuses on the review of the status of the development and implementation of safety management and safety oversight mechanisms within the ECAC region and more recently over the whole ICAO EUR Region. This fact-based exercise gives an indication of the status of current and future ATM safety management, regulation and oversight in ECAC. The results are presented in the form of a maturity score ranging from zero-to-100, for each individual ANSP and regulator, where 100 percent indicates that all ATM safety requirements are being met.

Impact of surveys

The 2002 survey of the maturity of ECAC States' ATM Safety Frameworks demonstrated that the development of these methodologies was not consistent across ECAC and that the implementation of measures intended to achieve the various safety objectives of many States was still at an early stage. Only a few States had well-defined safety frameworks and understood their safety requirements. The survey was repeated in 2004, 2006, 2007 and 2008, using the original 2002 survey as the benchmark.

Over the intervening years since 2002, considerable efforts had been expended by ICAO, EUROCONTROL and the European Commission in providing assistance to those States that had been identified as needing specific support. The results of the surveys now show a considerable improvement in ATM safety awareness and that the majority of regulators and ANSPs now understand what

ABOUT EUROCONTROL:

The European Organization for the Safety of Air Navigation (Eurocontrol) develops, coordinates and plans for implementation of pan-European ATM strategies and their associated action plans in a collective effort with all stakeholders. The primary objective of the organization, which currently numbers 38 Member States, is the development of a seamless ATM system across Europe. For more information, visit **www.eurocontrol.int**

TABLE 1: ESP ATM SAFETY SURVEY		
No	**TRS Study Areas**	**Maturity is when:**
A1	States' Safety Capability	There is a civil aviation policy and management structure at State level that has the capability to accomodate new international standards and applicable legislation into national law. The State defines a safety management program and promotes the implementation of safety management systems that are compliant with the relevant international standards.
A2	The collection and dissemination of incident data	There is a well-established structure in place for collecting and recording incident data, analysing and acting on the results of the analysis
A3	Safety Performance Measurement	The Safety Performance is known and based on an active system of monitoring using suitable safety indicators such as safety occurrences as well as pro-active monitoring processes e.g. audits, surveys and inspections etc.
A4	Promotion of best practice	There is an established system that gathers information on best practice, evaluates its applicability to different situations and disseminates the information.
A5	Organisational structures for safety	There is a formal system for the management of safety that has a clear management structure with unambiguously defined responsibilities and accountabilities.
A6	Current safety rules and procedures	Within the safety management system there are well-defined and accessible standard operating procedures (SOPs) that are known to staff and regularly reviewed and maintained.
A7	Current Safety Culture	There is a positive safety culture that is driven by the management in ensuring that all staff are aware of and believe in the organisation's shared beliefs, assumptions and values regarding operational safety. There is support for staff and promotion of an active safety climate for the reporting of incidents and the improvement of safety.
A8	Current achieved safety performance – deleted	This has been combined with Study Area A3.
A9	Current perceived safety levels	Internal and external stakeholders perceive the level of aviation and ATM safety as adequate.
A10	Disclosure of safety information	The general public and stakeholders have easy access to the performance of their ANSP through routine publication of achieved safety levels, incidents reports and overviews of improvement actions. All such information is neutralised (i.e. names are not included) to promote a just culture and the controls on the release if information is compliant with the requirements of ICAO annex 13 attachment E.
B1	The implementation of SMS	There is an awareness of the need to operate a formal system to manage safety including its future development.
B2	Timely compliance with international	There is an awareness of the implications of the international obligations related to safety in ATM in particular SES legislation, ICAO SARPS, ESARRs and the requirement to implement them within each State by a known deadline date is achieved.

In addition to the quantitative areas in Table 1, the eight qualitative shown in Table 2 are also probed during the survey:

TABLE 2: ESP ATM SAFETY SURVEY		
No	**TRS Study Areas**	**Maturity is when:**
B3	Identification of specific safety programmes within States that address national safety issues.	ATM Safety programmes are primarily driven by Regulations from ICAO and EUROCONTROL, in particular SES legislation, ICAO SARPS, & ESARRs. This Study Area sought to identify which programmes a State was pursuing above the regulatory minimum.
B4	Describe the current situation with regards to issues affecting the implementation of legislation.	Both positive and negative factors can affect the implementation and application of SES legislation, ICAO SARPS, & ESARRs. This Study Area sought to identify these factors.
B5	Identify potential weaknesses in the safety of air navigation that warrant special or immediate attention.	Potential weaknesses could be anything that leads to repeated safety deviations, a lack of compliance with mandatory safety procedures or flaws or omissions in safety programmes
B6	Identify the current safety concerns of the airspace users representative bodies.	This Study Area was addressed to user groups and sought to identify either the perceptual or the actual concerns of these groups.
B7	Identify current safety concerns of the Air Traffic Controller's representative bodies.	This Study Area was addressed to the Air Traffic Controller's representative bodies and sought to identify either the perceptual or the actual concerns of these bodies.
B8	Establish the position regarding whether or not the State's ATM safety indicators should be published annually to demonstrate that agreed targets are achieved?	The publication of ATM safety indicators with an aim of showing progress to the general public is supported by the ATM Industry and their stakeholders and any obstacles to openess of information have been resolved. This study area takes stock of the opinion regarding openess of ATM safety information and of any obstacles, solutions and progress that has been reported.

Figure 1: Mathematical Calculation of Maturity Scores

Mathematically, the maturity score is calculated from the questionnaire responses and the assumed weighted factors as follows:

$$S_{i,j} = \frac{100 \sum_{k=1}^{n_{i,j}} r_{k,j,i} \cdot w_{k,j}}{3 \sum_{k=1}^{n_{i,j}} w_{k,j}}$$

Where:

$S_{i,j}$	is the maturity score for State i in Study Area j.
$r_{k,j,i}$	is the numeric value of the response of State i to question k in Study Area j ("Slow Starter" response has a value of 0, "Planned" a value of 1, "Developing" a value of 2, and "Mature" a value of 3)
$w_{k,j}$	is the weight factor of question k to Study Area j
$n_{i,j}$	is the number of questions in Study Area j for which non-nil responses were provided by the State i.

An overall score for each State is then also estimated by taking the average of the scores over all Study Areas. Regulators and Service Providers are finally classified according to their score as being either:

Note: i = the State/ANSP being considered; j = the study area being considered; k = the question being considered.

is needed of them—though some lack the resources and expertise needed to implement the requirements.

The studies do reveal, however, that in the six years since the original study the *average* maturity level of ATM safety frameworks had improved from 55 percent to 81 percent for ANSPs, and from 53 percent to 75 percent for State ATM regulators. The current objective is to get all ANSPs and regulators above the 70 percent maturity level by the end of 2009.

Survey structure

The maturity level of individual regulators and service providers is derived from the average score across a set of key elements of ATM safety, known as Study Areas. In order to meet the survey objectives the overall status of a number of key elements of ATM safety are defined in these areas. For each Study Area a clear and underlying definition was developed that acts as a sub-objective for the project. These are linked directly to both the quantitative and/or qualitative results. The Study Areas, and a description of what would constitute a mature situation concerning the systematic safety framework in each, are shown below.

Survey methodology

The review of ATM safety management and safety regulation frameworks is undertaken through the collection and analysis of data and information elicited from ANSPs, ATM regulators and other stakeholders. The data is collected and validated through a combination of electronic questionnaires, follow-up telephone interviews and other available and related sources of information.

While the methodology uses similar questions, different questionnaires are used for regulators and service providers. The questionnaires have a graded scale of responses that correspond to four categories of safety maturity. These categories were developed to match the maturity grades: *Initial, Planned, Developing* and *Mature*. Allowance is also made for the possibility of a "No Response," where respondents feel they are not in a position to answer a question. The answer to each question is weighted to reflect its specific contribution to the particular objective being considered in the Study Area that the question relates to. The actual maturity score is derived through mathematical formula.

As can be seen from the two graphs in Figure 2 *(page 32)*, the results after five measurements (2002, 2006, 2007 and 2008) are showing a positive trend with a very good chance of most States reaching the 70 percent target score by the end of 2009.

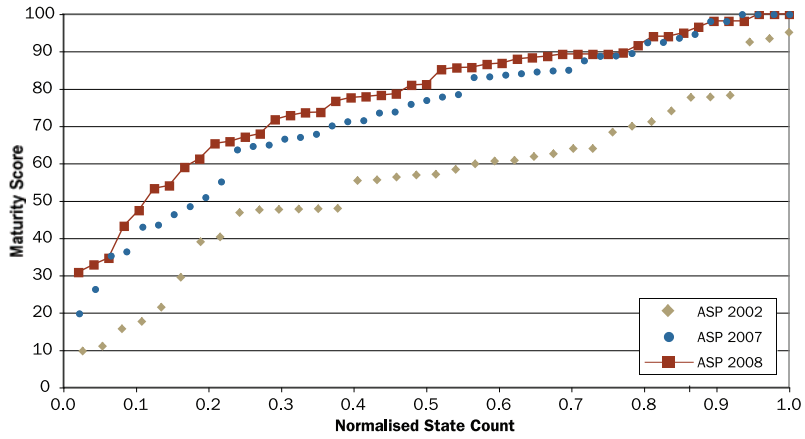
In addition to the State ATM regulators and service providers, the survey also seeks input from user groups such as IFATCA, IFALPA, IATA and controllers unions. These inputs contribute to the overall report, but do not affect the individual State maturity score.

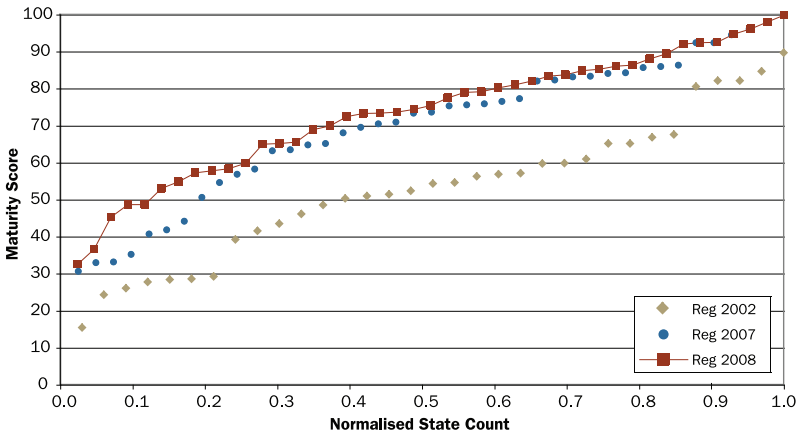
Frequency & participation

Since 2006, surveys have been conducted annually and from 2007 jointly with ICAO in order to cover the majority of the ICAO European (EUR) Region States. The objectives for the enlarged survey remain the same: i.e. to track implementation of ATM safety requirements and identify where specific support is required.

In addition to the extension of the surveys to the majority of ICAO EUR Region States (this includes three North African States (Algeria, Morocco and Tunisia)), ad hoc surveys have been undertaken in States belonging to the ICAO Middle East (MID) Region. In mid-2008, surveys were undertaken in Egypt, Jordan, Lebanon and Syria as part of the Europe-Middle East

Figure 2: ANSP and Regulator average maturity for all study areas





ATM Coordination (EMAC) project that is sponsored by ICAO, EUROCONTROL and the European Commission.

Benefits of approach taken

As indicated earlier, the maturity surveys are not audits—they are self-assessments that are tested through interviews and comparison with other available material. Audits are formal assessments of a State's overall ATM system and as such have a far greater impact on how a particular State's safety record is viewed by the general public.

The benefit of the maturity survey approach is that it is more of a finger in the air, or snapshot, of how State ATM regulators and ANSPs see themselves. It allows them to have an assessment made of their safety organizations outside of the formal audits and allows them to judge how they are progressing against other organizations. Although the published results are de-indentified, each organization is provided with its own report and maturity score and can therefore see where they sit in the overall graph statistics. It also enables them to identify areas that require improvement—ahead of the formal audits.

Additionally, ICAO and EUROCONTROL use the results of the surveys to identify where support is required and this allows resources to be focussed in the areas where they are most needed.

The future

Since these surveys were first developed in 2002, much has changed in the world of ATM and particularly within Europe—where ever-increasing traffic growth, coupled with a complex ATM structure, has led to new regulations through the European Communities Single European Sky. There is now more cohesion and a will to ensure that the safest possible ATM service is provided. It is therefore becoming increasingly important that we know how our aviation systems are performing, how individual parts of the overall ATM system are working, and in particular how well ATM Safety requirements are being met.

The parameters that were considered relevant in 2002 and formed the benchmark for current surveys are changing. EUROCONTROL, together with its stakeholders, is developing new parameters that will be used in a revamped survey methodology from 2010 onwards. This new methodology, although based on the existing one, will more clearly separate out regulator and ANSP requirements. It will concentrate on Key Performance Areas (KPAs), which will form Study Areas; specifically the surveys will assess Key Performance Indicators (KPIs). A completely new set of parameters for assessing the maturity level of an organization's ATM Safety framework will be used.

For regulators, the ICAO Eight Critical Elements for a State's oversight system will be used as the basis for the methodology. It is considered that this methodology could be used in other regions of the world as well as in Europe, in order to build a global picture of how well States are meeting their ATM safety obligations and how mature the overall global ATM safety framework is.

ICAO is investigating the feasibility of IUSOAP taking a Continuous Monitoring Approach (the preferred option) from 2011 onwards. To support this, sources of data are being sought and at the September 2008 Safety Practitioners Workshop, held in Montreal, great interest was shown in the Safety Maturity Framework methodology as being a light and easily applicable method of keeping track of States' progress at minimum cost. ■

Environment Unit Workshop provides important forum on Carbon Markets, while Alternative Fuels event planned for early 2009

ICAO's Aviation and Carbon Markets Workshop was a unique two-day event that brought together top financial, industry and environment experts to discuss the participation of international civil aviation in a global carbon market.

The event familiarised participants with key issues related to aviation emissions and carbon markets while a variety of approaches, including emissions trading and carbon offset programmes, were addressed. The workshop included a broad discussion of the pros and cons of market initiatives for aviation emissions and the opportunities for a global aviation carbon market.

For additional details and a full report of the Workshop results, please visit the ICAO Web Site at:

www.icao.int/2008WACM

Yvo de Boer, Executive Secretary, United Nations Framework Convention on Climate Change, addressing the assembled participants to ICAO's Aviation and Carbon Markets Workshop via satellite feed earlier this year.

Do alternative aviation fuels represent a viable option? What are the timelines for their deployment?

The ICAO Alternative Fuels Workshop will explore potential options and challenges in the development and deployment of alternative fuels for aviation, as well as initiatives for cooperation. The three-day forum will also review key issues relating to biofuels, ongoing and planned research strategies, certification and related standards requirements, and associated infrastructure implications.

Unmanned Aircraft Systems Study Group begins its review

The First Meeting of the Unmanned Aircraft Systems Study Group (UASSG/1) was held at ICAO Headquarters in Montreal earlier this year. Nancy J. Graham, Director of the ICAO Air Navigation Bureau, welcomed the participants and provided a brief synopsis of the expectations being placed on the Study Group while thanking the members and their advisors for undertaking the work to review, develop and recommend amendments to ICAO Standards and Recommended Practices (SARPs) and associated procedures for air navigation services necessary to accommodate civil UAS in non segregated airspace.

Kenneth Davis of the FAA and Holger Matthiesen of EUROCONTROL were elected co-Chairmen. Leslie Cary, Technical Officer, Air Traffic Management (ATM) Section of the ICAO Air Navigation Bureau was Secretary, supported by Vince Galotti, Chief, Air Traffic Management Section.

Seventeen members, 13 advisers and two observers from 14 States and seven international organizations attended the meeting. ■

ICAO Council Appointment

Name: Jalal Haidar
Country: United Arab Emirates

Jalal Haidar is currently serving as the Permanent Representative of the United Arab Emirates (UAE) on the ICAO Council and as the governing body's third Vice President. He also sits on the Air Transport, Unlawful Interference and Human Resources Committees, and, together with several other Council members, has been leading a campaign to bring reform to ICAO. He further contributed to the UAE/Global Aviation Summit to address the shortage of skilled aviation personnel.

Prior to becoming the UAE Representative, Haidar was the Chief of the Aviation Security Coordinated Assistance and Development Section of ICAO, where he was responsible for initiating and managing ways and means to promote the development of sustainable aviation security infrastructure systems for ICAO Member States. He was also responsible for policy direction of the ICAO aviation security training network, chaired ICAO's New and Emerging Threats to Civil Aviation Working Group, and the led in the development and establishment of the Global Aviation Security Audit Programme of ICAO.

Prior to his assignment to ICAO, Haidar worked for Aerospace Services International (ASI), where he held several positions including his last one as a Senior Vice President, Government and International Affairs. While at ASI, Haidar served as an aviation advisor to the late Prime Minister Rafic B. Hariri, overseeing the new Beirut International Airport development project and leading in the commissioning of the new facility. Prior to joining ASI, Haidar was Chief of Airport Operations at Chicago O'Hare International Airport and Duty Airport Manager. ■

ICAO, UAE formalise new agreements on Gulf facilities

ICAO and UAE representatives on the occasion of the signing of the Memorandum of Understanding on the Gulf Centre for Aviation Studies and receipt of the ICAO certificate of endorsement of the Dubai Centre for Aviation Security as an Aviation Security Training Centre (ASTC). ■

Present at the signings and presentation are Saif Mohammed Al Suwaidi, Director General, General Civil Aviation Authority (UAE); Taïeb Chérif, ICAO Sectretary General; Jalal Haidar, Representative of the UAE on the Council of ICAO; Nancy Graham, Director ICAO Air Navigation Bureau; Mohamed Elamiri, Chief, Safety and Security Audits Branch.

ICAO is accepting applications for the following senior positions until the dates indicated:

Until December 15, 2008:

Chief, Language and Publications Branch, Montreal, VN PC 2008/27/D-1

Deputy Director, Air Navigation Bureau, Montreal, VN PC 2008/28/D-1

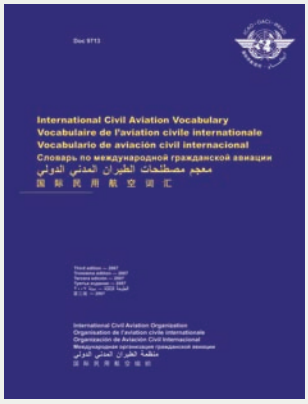
Deputy Director, Legal Bureau, Montreal, VN 2008/29/D-1

Until December 17, 2008:

ICAO Regional Director, Lima, VN PC 2008/30/D-1

All ICAO Vacancies are open to both female and male candidates. In order to increase the representation of women at all levels in ICAO, women are particularly invited to apply for vacant posts or for roster evaluation for future vacancies.

The full details of the above Vacancy Notice and other current vacancy notices, as well as instructions on how to apply, can be found on http://www.icao.int/employment ■



The International Civil Aviation Vocabulary: Third Edition

The third edition of ICAO's International Civil Aviation Vocabulary, recently released, includes approximately 1,000 definitions and abbreviations from the 18 Annexes to the Convention on International Civil Aviation. The Vocabulary is a compendium of some 700 pages that will be of interest to language specialists and other professionals with a keen interest in aviation terminology.

Part 1 includes definitions that have been adopted and recommended by the ICAO Council; they are in the six working languages of ICAO: Arabic, Chinese, English, French, Russian and Spanish.

Part 2 contains a comprehensive list of abbreviations from the latest edition of the Procedures for Air Navigation Services—ICAO Abbreviations and Codes (Doc 8400, PANS-ABC). ■

To order ICAO's Publications please contact the Document Sales Unit (tel.: 514-954-8022). The Catalogue of ICAO Publications is available at www.icao.int. Orders can also me made by e-mail at sales@icao.int.]

Approved Maintenance Organization and Air Operator Maintenance Organization SMS Implementation Seminar

Bangkok, 2008

The Asia and Pacific Office and COSCAP programmes in Asia and Pacific jointly organized the Approved Maintenance Organization and Air Operator Maintenance Organization SMS Implementation Seminar at the ICAO Regional Office in Bangkok in June 2008. The goal of this Seminar was to bring together regulators, air operators, service providers and manufacturers in a forum that promoted exchange of SMS best practices. 140 participants attended the Seminar. ■

Asia and Pacific Economic Cooperation (APEC) Global Navigation Satellite System (GNSS) Technological Innovation Summit and 12th Meeting of the GNSS Implementation Team (GIT/12)

Bangkok, 2008

The Asia and Pacific Economic Cooperation (APEC) Global Navigation Satellite System (GNSS) Technological Innovation Summit and 12th Meeting of the GNSS Implementation Team (GIT/12) hosted by Aeronautical Radio of Thailand Ltd. (AEROTHAI) were held in Bangkok, Thailand from May 26 to 30, 2008.

The Summit, inaugurated by Santi Promphat, Minister of Transportation, Royal Thai Government was aimed at increasing participation, collaboration and understanding amongst APEC Member Economies with regards to the implementation of GNSS technology for all sectors of transportation. The Summit, held on May 26 and 27, 2008 was attended by more than 180 participants from 10 Member Economies, India as a special invitee and ICAO Asia and Pacific Office Bangkok. Experts from Member Economies, industry and international organizations gave presentations on the recent technological developments in GNSS applications for all the three modes of transportation. ■

ICAORD, Bangkok address on ICAO strategies and status of GNSS implementation in the Asia/Pacific Region at the APEC GNSS Summit in Bangkok in May 2008.

Pioneers of the Environmental Age

by Howard Aylesworth,
ICCAIA Director, Civil Aviation Environment

Environmental issues remain a key factor limiting aviation growth. A global policy atmosphere that opens the door on a new age of experimentation is required to meet the challenge of carbon-neutral industry expansion. This new and pioneering effort will require a combination of what the ICCAIA refers to as technology, tactics and teamwork, and it will need to leverage innovations in equipment, operating procedures and processes across all sectors and stakeholders.

In the 1960s, jet noise was a growing concern. ICAO responded by establishing aircraft noise standards. In the 1970s, attention was drawn to local air quality. ICAO responded by establishing engine emissions standards. In the 1990s, climate change was placed on the global agenda. ICAO responded by requesting the *Special Report on Aviation*, and policies for addressing carbon dioxide (CO_2) emissions. As a global body ICAO continues to provide a unique forum for environmental leadership, but its States also need to consider the specific case of aviation as measures mature in the near and long term.

Significant improvements in aircraft fuel efficiency have been achieved since the dawn of the jet age—an average of one-two percent per year for new production aircraft. Approximately 45 percent of this fuel savings is attributable to advances in airframe technology, 40 percent to engine technology and 15 percent to development of entirely new aircraft. These remarkable improvements are the result of market forces and robust public-private partnership funded technology research, development, and demonstration programs.

The technology component of the ICCAIA vision sets long-term goals for fundamental research and mid-term goals for maturation of nascent technologies to demonstrate their potential for application in product development. Where possible, the ICCAIA program applies these technology advancements to in-production airframes and engines that don't meet the new standards. In this manner, the overall performance—including the environmental performance—of in service aircraft and engines is constantly improved.

ICAO data shows that noise impacts around airports have been cut dramatically, even while the number of operations has grown substantially. Solutions to achieving further noise and local air quality objectives include better land use policies, enhanced operational procedures, and the application of technologically advanced new aircraft designs to existing fleets. To achieve this comprehensive approach, aviation and communities must work together to achieve practical environmental policies.

ICAO nitrogen oxides (NO_x) and noise stringency standards are periodically reset to benchmark advancements in environmental technologies after they have been applied to a sufficient number of new products that have been proven in service. Unlike market-driven CO_2 reductions, ICAO NO_x and noise standards are appropriate due to the lack of significant market incentives required to reduce them. If CO_2 emissions were regulated, however, trade offs between it, NO_x and noise might actually prohibit the commercialisation of new technologies. Reliance on market forces to reduce CO_2 allows flexibility in this regard while avoiding the unintended consequences of a regulatory mismatch. The latter would be a lose-lose-lose solution for airlines, public health and welfare, and the environment.

Since the energy crisis of the 1970s, aircraft and engine companies have been investigating the practicality of alternative fuels for aircraft. Growing concerns over the availability of jet fuel, price fluctuations, local air quality, and the global climate impacts of aviation have generated a renewed interest in alternative fuels.

This attempt to shift from fossil to alternative fuels is obviously not unique to aviation. Unfortunately, the biofuels available to automobiles and for heating purposes are not presently suitable for aviation applications. Appropriate biofuels have the potential, however, to reduce aircraft carbon dioxide (CO_2) emissions. If aviation can develop and introduce non-carbon aircraft fuel technologies for mid-century introduction while simultaneously accelerating annual reductions in CO_2 emissions, aggressive technology development programs and timely, dynamic methods for technology insertion will be a sustainable supply-side policy.

Air transportation system modernisation is perhaps the largest and most immediate means to reduce CO_2 emissions —an estimated 10 to 18 percent excess fuel burn. This requires air navigation service providers to advance their research and development efforts and accelerate their effort to implement 21st Century air transport systems.

ICAO Contracting States must now lead in establishing a global policy atmosphere that opens the door on a new pioneering age to meet the challenge of carbon-neutral growth. ICAO is the ideal and only truly global forum in which this can be achieved. ■

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