



# HERMES

AIR TRANSPORT ORGANISATION

THE MAGAZINE

06 | APRIL - JUNE 2019



## VIJAY POONNOOSAMY

Interview with the  
First President and  
Honorary Member  
of the Hermes  
Air Transport  
Organisation



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# EDITORIAL



**Dr Kostas Iatrou**

Director General

Hermes - Air Transport Organisation

**Dear Hermes members,**

**T**he last three months have been very busy for Hermes - Air Transport Organisation.

In April Hermes in cooperation with ACI hosted a reception at the ACI WAGA in Hong Kong. In May the 2019 Hermes AGM & Leaders Forum was held in Ekali, Athens, in the presence of Dr Aliu, President of ICAO Council, Alexandre de Juniac, DG & CEO of IATA among many distinguished other aviation personalities; the full report and conclusions are included in this issue.

The AGM elected Hermes Jeff Poole as its New President and a new Board Member, Luis Felipe de Oliveira. During the AGM Vijay Poonosamy, the first Hermes President was named Honorary Member of the Organisation and he is this issue's interviewee. During the Leaders Forum, Hermes signed an MoU with Mozarteum Foundation. For this occasion Hermes members had the opportunity to see and listen to Mozart's "Costa" violin. During IATA, AGM we hosted a reception and we signed an MoU with AFRAA. Our recommendations for the 2019 on then topic "Education and Performance in aviation" were concluded and you can read the report in The Magazine.

Finally, I am pleased to inform you that Hermes - Air Transport Organisation request to become observer in the 40th ICAO Assembly was accepted by ICAO Council.

I wish you a very pleasant summer!

*Kostas Iatrou*



1/4/2019

## NEW CANSO BEST PRACTICE HELPS DELIVER AIR TRAFFIC FLOW EFFICIENCIES

CANSO (the Civil Air Navigation Services Organisation) has launched a best practice guide to help increase operational coordination between aviation stakeholders and enable safer, more efficient air traffic flow.

CANSO has published a new guidance document – Implementing Air Traffic Flow Management and Collaborative Decision Making – to help air navigation service providers (ANSPs) and other aviation stakeholders to meet international standards for flow management and to effectively balance demand from increasing air traffic against airport and airspace capacity.

CANSO's guidance on air traffic flow management (ATFM) will help ANSPs and other stakeholders to better monitor demand, capacity and constraints at airports and in airspace, and to identify and address imbalances. It will also help to build processes and procedures that ensure stakeholders share accurate and up-to-date information, and make appropriate decisions to balance demand with capacity, and improve traffic flow.



### Implementing Air Traffic Flow Management and Collaborative Decision Making

2/4/2019

## CANSO CALLS FOR REALISTIC IMPLEMENTATION OF CHALLENGING NEW EU-WIDE TARGETS FOR AIR TRAFFIC MANAGEMENT

CANSO (Civil Air Navigation Services Organisation) emphasises that flexibility and realism are needed at the local level in implementing proposed and challenging EU-wide air traffic management (ATM) targets. The new targets are for the third reference period (RP3) of the Single European Sky Performance Scheme. They cover performance in the areas of safety, flight efficiency, en-route delays and cost. CANSO strongly supports the need for such performance-based targets as important to the development of ATM in Europe. However, the proposed new targets pose a significant challenge; to reduce unit costs while continuing to tackle the pressing capacity constraints affecting performance in Europe. It is therefore vital that the binding local targets that flow from these EU-wide targets are realistic, achievable and appropriate for present conditions.

3/4/2019

## ACI DEVELOPS WORLD'S FIRST AIRPORT CUSTOMER EXPERIENCE ACCREDITATION PROGRAMME

Airports Council International (ACI) World has today launched two new unique programmes that are designed to help airports promote service excellence and improve customer experience.

ACI has developed the first Airport Customer Experience Accreditation programme - which offers a common definition and framework for customer experience management - and the Airport Customer Experience Professional Designation Programme for airport employees.



3/4/2019

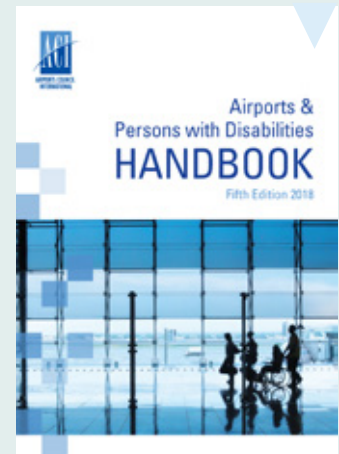
### 29TH ACI WORLD ANNUAL GENERAL ASSEMBLY AFFIRMS ITS POSITION ON AIRPORTS AND DRONES

The Resolution makes it clear that the industry needs to take measures to protect themselves from unwanted drones and encourages national authorities and local law enforcement agencies to take responsibility for preparation and enforcement of anti-drone measures. The Resolution provides a basis for airport action and appeals for coordinated measures together with governments and other concerned parties. Based on advice from national authorities, it proposes that these parties establish a Concept of Operations and Standard Operating Procedures for anti-drone measures at airports. The Resolution makes recommendations for good practices such as coordinating with drone industry experts to understand the latest developments, as well as providing training to airport operational personnel on policies and procedures on the operation of authorized and unauthorized drones.

3/4/2019

### 29th ACI WORLD ANNUAL GENERAL ASSEMBLY AFFIRMS AIRPORTS' COMMITMENT TO ACCESSIBILITY FOR PASSENGERS WITH DISABILITIES

The Resolution recognizes the increased efforts airports are making and encourages practitioners to draw from the ACI Airports and Persons with Disabilities Handbook (2018). The recommendations in this Handbook are intended to help airports effectively assist persons with disabilities when designing and renovating facilities.



3/4/2019

### 29th ACI WORLD ANNUAL GENERAL ASSEMBLY AFFIRMS ITS POSITION ON INCREASED ENGAGEMENT WITH ICAO ON POLICY DEVELOPMENT, CAPACITY BUILDING AND ENVIRONMENTAL PROTECTION

As ICAO plans for its 40th Triennial Assembly, to be held from 24 September to 4 October this year, the ACI Assembly confirmed the importance of ACI alignment with the objectives of ICAO to further a safe, secure, and sustainable air transportation system. The Resolution recognizes the value of working directly with regulators and policy makers to influence decisions at the ICAO level. Furthermore, the Resolution affirms ACI's position as the voice of airports on the global stage. In a practical sense, the Resolution also encourages greater commitment from ICAO to ACI in the development of joint ventures such as in training, events, APEX, and the collection and use of data. It paves the way to further developing relations between ICAO's Technical Cooperation Bureau and the World Business Partners in terms of capacity building.

3/4/2019

### ACI WORLD PUBLISHES NEW GUIDANCE FOR AIRPORTS ADDRESSING INSIDER THREAT

Airports Council International (ACI) World has today published a new resource for airports in addressing the risks and threats posed by staff members exploiting their positions of trust to harm the airport and others. It provides airports with advice, information and examples, drawing on the experiences of airports around the world on combatting insider

threat and identifies best practices that can form a robust multi-layered security system. The handbook explores the current global threat in this area, including cybersecurity risks, and offers a range of different measures and solutions that can be tailored to the unique local conditions and challenges faced by airports around the world.

6/4/2019

## FOLLOWING THE 'GREAT MOVE', FIRST FLIGHT FROM ISTANBUL AIRPORT WAS TO THE ANKARA, JUST LIKE 86 YEARS AGO

Turkish Airlines' first flight from its new home, Istanbul Airport, after its final transfer operation, was to the capital, just like the first flight of the flag carrier 86 years ago.

Atatürk Airport was the witness to the flag carrier

airline's steady local and global rise since its founding and Turkish Airlines' final passenger flight from this transfer hub was the Singapore flight that took place at 02:00 today.

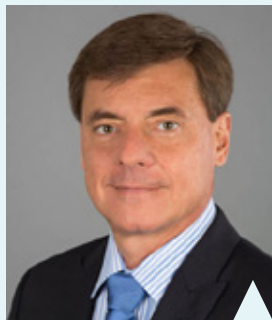


Source: Turkish Airlines

9/4/2019

## EMBRAER BOARD SELECTS NEW PRESIDENT AND CEO

Further to the succession process, which started last March, Embraer announces that the nomination of Francisco Gomes Neto, current President of Marcopolo, will be presented to the Board of Directors for the position of President and CEO.



13/4/2019

## DOMINICA BECOMES ICAO'S 193RD MEMBER STATE

Dominica has now become the 193rd Member State of the International Civil Aviation Organization (ICAO) following its official adherence to the Convention on International Civil Aviation (the Chicago Convention). Dominica deposited its notification of adherence to the Convention on 14 March 2019, and its ICAO Member State status became effective thirty days after on 13 April 2019. ICAO was advised of the development by the Government of the United States of America, which serves as the depositary of the Chicago Convention. ICAO Member States were advised separately of the development via a State Letter.



13/4/2019

## STRATOLAUNCH COMPLETES HISTORIC FIRST FLIGHT OF AIRCRAFT

Stratolaunch Systems Corporation, founded by Paul G. Allen, today successfully completed the first flight of the world's largest all-composite aircraft, the Stratolaunch. With a dual fuselage design and wingspan greater than the length of an American football field, the Stratolaunch aircraft took flight at 0658 PDT from the Mojave Air &

Space Port. Achieving a maximum speed of 189 miles per hour, the plane flew for 2.5 hours over the Mojave Desert at altitudes up to 17,000 feet. As part of the initial flight, the pilots evaluated aircraft performance and handling qualities before landing successfully back at the Mojave Air and Space Port.



Source: Stratolaunch

15/4/2019

## EUROPEAN COMMISSION RECEIVES HIGH-LEVEL RECOMMENDATIONS ON AIR TRAFFIC MANAGEMENT IN EUROPE

Today the European Commission received recommendations by high-level aviation experts on the future of air traffic management in Europe. The so-called "wise persons group" was set up by the Commission to consider recent developments in European aviation, listen to the views of major air traffic management stakeholders and produce proposals on the future direction of air traffic management in Europe.

### Short-term measures (over next two years)

- Continue with airspace restructuring measures examined in a study carried out by the Network Manager and SESAR Joint Undertaking (Airspace Architecture Study) to increase collaboration across national borders and to make better use of modern digital data, automation and communications technologies.
- Accelerate the deployment of state of the art technologies.
- The group fully supports the short term measures starting on 25 April to minimise air traffic flow management delays which the Network Manager (EUROCONTROL) is working on together with the aviation sector.

### Long-term solutions

- Increased role of the Network Manager to make sure all air traffic managers act in the common European interest
- Improve the link between the quality of air traffic service and the price paid by those who fly. For example, organisations that are first to put in place innovative solutions should be rewarded.
- Upgrading the role of air traffic controllers with better support by technology, and improving synergies with military air traffic managers.
- Establish a European (Upper) Airspace System with a common route charging system to stimulate the use of the shortest routes and to avoid prolonging flights due to congestion, and consequently deliver benefits for the environment.

## Out with the gold, in with the blue UNITED'S NEXT LIVERY



3/5/2019

### 2019 AIR TRANSPORT AWARDS – DR ALIU, PRESIDENT OF ICAO COUNCIL, BRENNAN, DIRECTOR GENERAL OF EUROCONTROL, ACI AND WIZZ AIR AMONG THE WINNERS

In particular, the winners by category are as follows:

- ATN Individual Award: **Mario Nemeth, Director General, Civil Aviation of Slovakia**
- ATN Corporate Award: **Goldair Handling**
- ATN International Organisation Award: **ACI**
- Manufacturer of the Year: **Airbus**
- Airport of the Year: **Lisbon Airport**
- Airline Alliance of the Year: **Star Alliance**
- Airline of the Year: **Wizz Air**
- Hermes Award: **Eamonn Brennan, Director General, EUROCONTROL**
- "Katerina & George Iatrou" Lifetime Achievement Award: **Jeff Shane**
- Leader of the Year: **Dr. Olumuyiwa Benard Aliu, President of the ICAO Council**

24/4/2019

### OUT WITH THE GOLD, IN WITH THE BLUE - UNITED AIRLINES UNVEILS ITS NEXT FLEET PAINT DESIGN

The next iteration of United's livery prominently features the color most connected to the airline's core – blue. Three shades – Rhapsody Blue, United Blue and Sky Blue – are used throughout the design in a way that pays respect to United's heritage while bringing a more modern energy.



3/5/2019

## ACI RECEIVES THE BEST INTERNATIONAL ORGANIZATION OF THE YEAR AWARD AT THE 2019 AIR TRANSPORT AWARDS

Airport Council International (ACI) World has today been awarded the Best International Organization of the Year Award by Air Transport News (ATN) at the 2019 Air Transport Awards, held in partnership with the Hermes Air Transport Organization. The inaugural accolade celebrates the valuable contributions of ACI to the aviation sector at large.

“We strive to contribute to the industry and to the communities touched by the economic and social benefits of aviation,” ACI World Director General Angela Gittens said. “I am pleased that this award recognizes our efforts as an organization that continues to make valuable contributions to the air transportation industry.”

3/5/2019

## ICAO COUNCIL PRESIDENT EMPHASIZES NEAR AND LONG-TERM AIR TRANSPORT PRIORITIES DURING RECENT EUROPEAN MISSION

During his recent European mission, ICAO Council President Dr. Olumuyiwa Benard Aliu met with air transport leaders to discuss matters relating to aviation training, human resources development and the Next Generation of Aviation Professionals, the accelerating progress of new aircraft and air services innovations now confronting global air transport regulators and operators, exponential growth and rapid digitalization of air services and the continuous efforts toward reduced air transport emissions being pursued sector-wide. Later in Athens, while delivering the keynote address to the high-level Hermes Air Transport 2019

Leader’s Forum, Dr. Aliu highlighted the current rate of traffic growth confronting global aviation and the many challenges it poses for the next generation of aviation pilots, technical specialists, managers and leaders, stressing that “while this growth in connectivity is highly beneficial to global socio-economic prosperity, it also carries with it some critical challenges given that increasing flight and passenger volumes need to be properly assessed and managed to maintain the historically remarkable safety and efficiency of our network.”



Source: ICAO

6/5/2019

## EUROCONTROL REAPPOINTED AS NETWORK MANAGER BY THE EUROPEAN COMMISSION FOR THE NEXT DECADE

The decision builds on the achievements of the EUROCONTROL Network Manager in delivering on its initial mandate from the European Commission: EUROCONTROL has been successfully managing the Eu-

ropean network since July 2011. Our current mandate runs until the end of the Performance Scheme’s second Reference Period, 31 December 2019; our new mandate will cover the third and fourth Reference Periods.



6/5/2019

### **QANTAS OPERATES WORLD'S FIRST ZERO WASTE FLIGHT**

The first-ever commercial flight to produce no landfill waste took to the skies this morning, marking the start of Qantas' plan to cut 100 million single-use plastics by end-2020 and eliminate 75 per cent of the airline's waste by end-2021. All in-flight products on board QF739, flying from Sydney to Adelaide and staffed by cabin crew from the Qantas 'Green Team', will be disposed of via compost, reuse or recycling.

27/5/2019

### **GROUND HANDLING PRIORITIES: SAFETY, GLOBAL STANDARDS AND MODERNIZATION**

The International Air Transport Association (IATA) called on the ground handling industry to focus on three priorities to effectively accommodate the expanding demand for air travel and air cargo. The three priorities are;

- Continuing to put safety first;
- Implementing global standards;
- Accelerating the speed of innovation and process modernization.

29/5/2019

### **EUROPEAN COMMISSION ADOPTS TARGETS TO IMPROVE AIR TRAFFIC IN EUROPE FOR NEXT FIVE YEARS**

European Commission adopted performance targets for air navigation services for the period 2020-2024. Under the Aviation Strategy for Europe, the Commission is continuously working to improve air traffic performance to the benefit of people and the environment. The targets determine the level of ambition for the entities responsible for air traffic management in Europe. Among others, targets are set regarding the punctuality of flights, efficiency of flight paths and the cost of service to the benefit of airlines and passengers, while ensuring the highest safety standards. It is the responsibility of Member States now to set local targets and of the national air navigation service providers to implement them.

#### **Adopted Union-wide performance targets:**

- **Safety:** Air traffic management in Europe is very

20/5/2019

### **EUROPEAN COMMISSION SIGNS LANDMARK AVIATION AGREEMENTS WITH CHINA**

The European Union and China have today signed an agreement on civil aviation safety and a horizontal aviation agreement to strengthen their aviation cooperation. The agreements follow up on the EU-China Summit of 9 April and will serve to boost the competitiveness of the EU's aeronautical sector and enhance overall EU-China aviation relations. This marks yet another key deliverable under the Juncker Commission's Aviation Strategy for Europe – designed to generate growth for European business, foster innovation and let passengers profit from safer, cleaner and cheaper flights.

safe. The targets set small additional improvements in the safety culture and risk management. They should trigger improvements in identifying hazards, assessing risks and implementing mitigation measures.

- **Environment:** The average actual distance flown by aircraft should be shortened by an additional 0.2 percentage point as compared to the target for 2019. This would improve flight efficiency, reducing fuel burn, and thus avoid a large amount of CO<sub>2</sub> emissions per year.
- **Capacity:** Despite the current problems with delay, the targets for capacity must remain ambitious. In 2018, the average delay per flight was 1.83 minutes. The target is to move towards 0.9 minutes in the next years and as of 2023 the average Air Traffic Flow Management delay per flight shall not exceed 0.5 minute. Reaching the target would significantly reduce delays for passengers and support the increasing demand for traffic.
- **Cost-efficiency:** By the end of 2024 the average determined unit cost for air navigation services should be lower than today. The targets set a reduction around 15% as compared to the 2017 actual unit rate. This allows Member States and respectively their Air Navigation Service Providers to invest in capacity provision. However, further efficiency gains are still needed and possible due to new technologies and procedures and due to the fact that air navigation service providers will have an increased income due to higher traffic. This would reduce the cost to airspace users, enabling airlines to offer lower fares to passengers.

29/5/2019

## AIRBUS CELEBRATES 50 YEARS OF PIONEERING PROGRESS

Airbus has launched a global campaign celebrating the company's 50 year anniversary, showcasing key moments of pioneering progress throughout the past five decades.

The campaign begins today by marking 50 years since the French Minister of Transport, Jean Chamant and the German Minister of Economic Affairs, Karl Schiller, signed an agreement at the 1969 Paris Air Show for the joint-development of the A300 aircraft, a first European twin-aisle twin-engine jet for medium-haul air travel.



2/6/2019

## SLOWING DEMAND AND RISING COSTS SQUEEZE AIRLINE PROFITS

The International Air Transport Association (IATA) announced a downgrade of its 2019 outlook for the global air transport industry to a \$28 billion profit (from \$35.5 billion forecast in December 2018). That is also a decline on 2018 net post-tax profits which IATA estimates at \$30 billion (restated). The business environment for airlines has deteriorated with rising fuel prices and a substantial weakening of world trade. In 2019 overall costs are expected to grow by 7.4%, outpacing a 6.5% rise in revenues. As a result, net margins are expected to be squeezed to 3.2% (from 3.7% in 2018). Profit per passenger will similarly decline to \$6.12 (from \$6.85 in 2018).

31/5/2019

## AIRBUS CANADA LIMITED PARTNERSHIP NEW NAME COMES INTO EFFECT JUNE 1

The change of name of CSALP to Airbus Canada Limited Partnership, which was announced in March 2019, will come into effect on June 1, 2019. The new name reflects the majority interest of Airbus in the partnership since July 1, 2018. The partnership is adopting the Airbus logo as its single visual identity.

Over the course of the coming weeks, the new name will be applied to the limited partnership's documentation, materials and branded items. The Airbus and Bombardier logos will continue to be displayed side-by-side on the building exteriors in Mirabel, reflecting production activities on the site for both the Airbus A220 and Bombardier CRJ aircraft families.

3/6/2019

## INDUSTRY COLLABORATION BRINGS NEW ERA FOR CRUCIAL ISSUE OF AIRPORT SLOT ALLOCATION

Airports Council International (ACI) World, the International Air Transport Association (IATA), and the Worldwide Airport Coordinators Group (WWACG) announced the agreement of a new governance structure for the Worldwide Slot Guidelines (WSG) that puts the interests of the traveling public at the center of the process. Airport operators, airlines, and slot coordinators will now play an equal role in determining the global guidelines for the allocation of airport slots.

More than 200 airports require slot coordination because they have insufficient capacity to meet demand at all times of the day. Coordination based on global standards helps to maximize utilization of existing capacity, avoid delays and improve the passenger experience.

The new industry-wide governance was signed today in Seoul, South Korea by the ACI World Director General Angela Gittens, the IATA Director General and CEO, Alexandre de Juniac, and WWACG Chairman, Mr. Eric Herbane. All parties agreed that new governance and increased collaboration provides an opportunity to further modernize slot allocation mechanisms to the benefit of the travelling public and the aviation community at large.

6/6/2019

### ACI WORLD STATEMENT ON THE DEPLOYMENT OF RFID TECHNOLOGY FOR BAGGAGE TRACKING

Airports Council International (ACI) World has today published the following statement on the deployment of Radio Frequency Identification (RFID) and other similar technologies for baggage tracking.

ACI has always strongly supported the development of new and better technologies for the purpose of tracking passenger baggage across the global air transport system.

Experience has shown that the seamless deployment of any technology is best achieved through cooperation between airports, airlines and all other parties to find the most cost-effective and operationally suitable solution.

10/6/2019

### ICAO AND IATA LAUNCH NEW GUIDANCE SUPPORTING THE PREVENTION AND MANAGEMENT OF UNRULY AND DISRUPTIVE PASSENGERS

The Secretary General of ICAO, Dr. Fang Liu, and the Director General and CEO of IATA, Mr. Alexandre de Juniac, have officially launched new ICAO legal guidance on the management of unruly and disruptive passengers.

The new ICAO Manual on the Legal Aspects of Unruly and Disruptive Passengers (Doc 10117) is a key result emerging from the adoption of the Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft (Montréal Protocol of 2014). Its chief aim is to assist national governments in legislating appropriate and better harmonized legal measures to prevent and deal with unruly and disruptive passenger incidents on international flights.



Source: ICAO

14/6/2019

### AIRBUS FOUNDING FATHER AND VISIONARY, ROGER BÉTEILLE, PASSES AWAY

Airbus is saddened that one of its founding fathers, Roger Béteille, who not only shaped Airbus' first commercial aircraft - the A300B - but also Airbus Industrie, passed away on 14 June at the age of 97.

11/6/2019

### EU WIDE RULES ON DRONES PUBLISHED

On 11 June 2019 common European rules on drones, Commission Delegated Regulation (EU) 2019/945 & Commission Implementing Regulation (EU) 2019/947, have been published to ensure drone operations across Europe are safe and secure. The rules will amongst others help to protect the safety and the privacy of EU citizens while enabling the free circulation of drones and a level playing field within the European Union.



17/6/2019

## AIRBUS LAUNCHES LONGEST RANGE SINGLE-AISLE AIRLINER: THE A321XLR

Following the very positive feedback from the market, Airbus has launched the A321XLR to complement its best-selling A321neo Family. The A321XLR thus becomes the next evolutionary step which responds to market needs for even more range, and creates more value for the airlines by bringing 30% lower fuel burn per seat than previous-generation competitor aircraft. Starting from 2023, the aircraft will deliver an unprecedented Xtra Long Range of up to 4,700nm – 15% more than the A321LR and with the same unbeatable fuel efficiency. With this added range, airlines will be able to oper-

ate a lower-cost single-aisle aircraft on longer and less heavily travelled routes – many of which can now only be served by larger and less efficient wide-body aircraft. This will enable operators to open new world-wide routes such as India to Europe or China to Australia, as well as further extending the Family's non-stop reach on direct transatlantic flights between continental Europe and the Americas. For passengers, the A321XLR's new Airspace cabin will provide the best travel experience, while offering seats in all classes with the same high-comfort as on long-haul widebody aircraft.

### A321XLR\* Xtending the A321neo success: Unbeatable fuel efficiency now flying Xtra Long Range



\*Xtra Long Range

up to **4,700 nm / 8,700 km**

+15% range   +15% range

A321neo   A321LR   A321XLR

**180 - 220** Typical Seating  
2-class

**AIRSPACE** cabin

A321neo unbeatable economics

**-30%** fuel burn per seat\*\*

What is an A321XLR?

MTOW **101t** |  **Rear Centre Tank & optional Additional Centre Tank**

\*\*vs. previous generation competitor aircraft per seat

**AIRBUS**

17/6/2019

## FAA ANNOUNCES NEW SUPERSONIC RULEMAKING

Today in remarks at an Innovation Panel before Paris Air Show attendees, FAA Acting Administrator Dan Elwell said the U.S. will ensure and enable safer and more innovative technologies to enter new aviation segments.

As an example, Elwell announced a Notice of Proposed Rulemaking (NPRM) that modifies and clarifies existing regulatory procedures to obtain FAA approval to test supersonic aircraft. The NPRM is a first, necessary milestone toward the reintroducing civil supersonic flight.

**19/6/2019****SIMON HOCQUARD APPOINTED DIRECTOR GENERAL OF CANSO**

CANSO (the Civil Air Navigation Services Organisation) has announced that Simon Hocquard is appointed Director General of CANSO from 19 June 2019. This follows as Jeff Poole completes his tenure as Director General. Simon previously served as CANSO Deputy Director General.



Source: CANSO

**20/6/2019****CONCEPTUAL DESIGN OF A LOW-BOOM COMMERCIAL SUPERSONIC AIRCRAFT**

Lockheed Martin present Conceptual Design of a Low-Boom Commercial Supersonic Aircraft based on NASA's X-59 program. The announcement was made in AIAA AVIATION Forum.



Source: Lockheed Martin



21/6/2019

## H55, A SOLAR IMPULSE TECHNOLOGICAL SPIN OFF, HAS SUCCESSFULLY FLOWN A NEW ELECTRIC AIRPLANE

Powered by H55's electric propulsion system and manufactured by BRM Aero, the *Bristell Energic* is a 2-seater fully electric airplane to be used for pilot training and flight schools. For H55 this is a **stepping stone for the development of electric propulsion systems designed for VTOLs and flying taxis.**

H55 develops certified electric propulsion solutions to enable the next aviation revolution. The company focuses on the entire propulsion chain, to be certified CS 23, starting from the energy source and its management, through thrust and power, to pilot interface and control systems. Through its close and long standing collaboration with regulatory authorities, including the Swiss Federal Office of Civil Aviation, H55 leverages certification as an important source of innovation.



Source: H55

25/6/2019

## MITSUBISHI HEAVY INDUSTRIES TO ACQUIRE CANADAIR REGIONAL JET PROGRAM FROM BOMBARDIER INC.

Mitsubishi Heavy Industries, Ltd (MHI) (TO-KYO:7011) and Bombardier Inc (TSX: BBD.B) announced today they have entered into a definitive agreement, whereby MHI will acquire Bombardier's regional jet program for a cash consideration of \$550 million USD, payable to Bombardier upon closing, and the assumption by MHI of liabilities amounting to approximately \$200 million USD.

Under the agreement, Bombardier's net beneficial interest in the Regional Aircraft Securitization Program (RASPRO), which is valued at approximately \$180 million USD, will be transferred to MHI.

Pursuant to the agreement, MHI will acquire the maintenance, support, refurbishment, marketing,

and sales activities for the CRJ Series aircraft, including the related services and support network located in Montréal, Québec, and Toronto, Ontario, and its service centres located in Bridgeport, West Virginia, and Tucson, Arizona, as well as the type certificates.

This acquisition is complementary to MHI's existing commercial aircraft business, in particular the development, production, sales and support of the Mitsubishi SpaceJet commercial aircraft family. The maintenance and engineering capabilities of the CRJ program will further enhance critical customer support functions, a strategic business area for MHI in the pursuit of future growth.



26/6/2019

## NEW SUSTAINABILITY STRATEGY GUIDES AIRPORTS TOWARDS ENHANCED SOCIETAL VALUE

This morning at the 29<sup>th</sup> ACI EUROPE Annual Congress in Cyprus, ACI EUROPE launched the first ever comprehensive Sustainability Strategy for the airport industry.

As society increasingly demands more inclusive business models and corporate culture, the concept of sustainability has gone beyond a purely environmental focus to include wider social and economic

aspects as well. Airports are a key interface between a wide range of aviation and non-aviation stakeholders - providing essential connectivity services to their communities. They are also the ambassadors of aviation on the ground, and often on the frontline of aviation's externalities. This gives them the opportunity to be role models and encourage transformational change beyond their own remits.

26/06/2019

## EUROPE'S AIRPORT INDUSTRY COMMITS TO NET ZERO CO2 EMISSIONS BY 2050

This morning at the 29<sup>th</sup> ACI EUROPE Annual Congress & General Assembly\* in Cyprus, the airport trade body unveiled a Resolution formally committing the European airport industry to become net zero for carbon emissions under its control by 2050, at the latest. With this commitment, Europe's airports are responding to the Climate Emergency - and acting upon the latest scientific evidence presented by the IPCC Special Report on Global Warming of 1.5°C.

This commitment comes alongside a call for the entire aviation sector to develop a joint ambition & initial roadmap towards a net zero carbon emissions air transport system. This is needed to supplement the significant efforts already being made by the aviation sector under ICAO's Basket of Measures, including CORSIA.

27/6/2019

## AIR CANADA AND TRANSAT A.T. INC. CONCLUDE DEFINITIVE ARRANGEMENT AGREEMENT FOR COMBINATION OF THE TWO COMPANIES

Air Canada and Transat A.T. Inc. announced today that they have concluded a definitive Arrangement Agreement that provides for Air Canada's acquisition of all issued and outstanding shares of Transat and its combination with Air Canada. Under the terms of the binding agreement, unanimously approved by the Board of Directors of Transat, Air Canada will acquire all outstanding shares of Transat for \$13 per share. The value of the all-cash transaction is approximately \$520 million.



**AIR CANADA**





## *Hermes hosted a reception during ACI WAGA in Hong Kong*

**H**ermes hosted the reception on Tuesday 2 April during the ACI WAGA and Conference in Hong Kong with the presence of more than 10 airport CEOs.

Dr Kostas Iatrou, Director General of Hermes – Air Transport Organisation, made a short introduction of the organisation and presented its latest initiatives.

Angela Gittens stressed that Hermes is a non political

non partisan industry wide organisation and that membership is on individual basis as they look for people who have a passion for the growth of the industry and thus the benefit of society. She also stated that this year's focus will be on education and young talent. During the reception two new members joined Hermes, namely André Schneider CEO of Geneva Airport and David Ciceo, CEO of Cluj Airport.



## *Hermes Report Committee met in Ekali to prepare the report for the 2019 recommendations*

**T**he committee led by Professor Martin Dresner, President, ATRS, met in Ekali on the eve of the Hermes AGM & Leaders Forum in order to prepare the 2019 report on the topic of Education and Performance in Aviation. The members of the committee were:

- Professor Martin Dresner, President, ATRS – Chair
- Robert Deillon, Vice President, Hermes – Air Transport Organisation
- Professor Triant Flouris, Provost, Hellenic American University
- Professor Andreas Papatheodorou, Journal of Air Transport Studies

This year Hermes received seven position papers from the following organisations:

- ICAO
- IATA
- EUROCONTROL
- AACO
- AFRAA
- ALTA
- AASA

*(cont.'d ►)*





*(cont.'d ►) **Hermes Report Committee met in Ekali  
to prepare the report for the 2019 recommendations***

The highlights of the report are:

- Air traffic is expected to double over the next twenty years. Hiring and retaining aviation personnel is therefore essential.
- Education and training in aviation should be considered as an investment based on three major factors, namely cost, return and risk.
- Major industry challenges include: meeting the needs of a growing industry, competing for and retaining personnel, filling the gender gap and addressing training in automation and artificial intelligence.
- It is important for the industry to conduct studies in order to gain comprehensive situational awareness of its status and future needs.
- Effective industry-education partnerships must be developed to provide a framework for addressing future educational and training priorities.
- Best practices should be adopted from other industry settings for the aviation industry to successfully compete for personnel.
- Training and education programs should be developed so that current aviation employees can be usefully re-deployed or re-trained.
- Education and training in aviation must address diversity imbalances in order for the industry to attract and retain the required personnel. During the reception two new members joined Hermes, namely André Schneider CEO of Geneva Airport and David Ciceo, CEO of Cluj Airport.

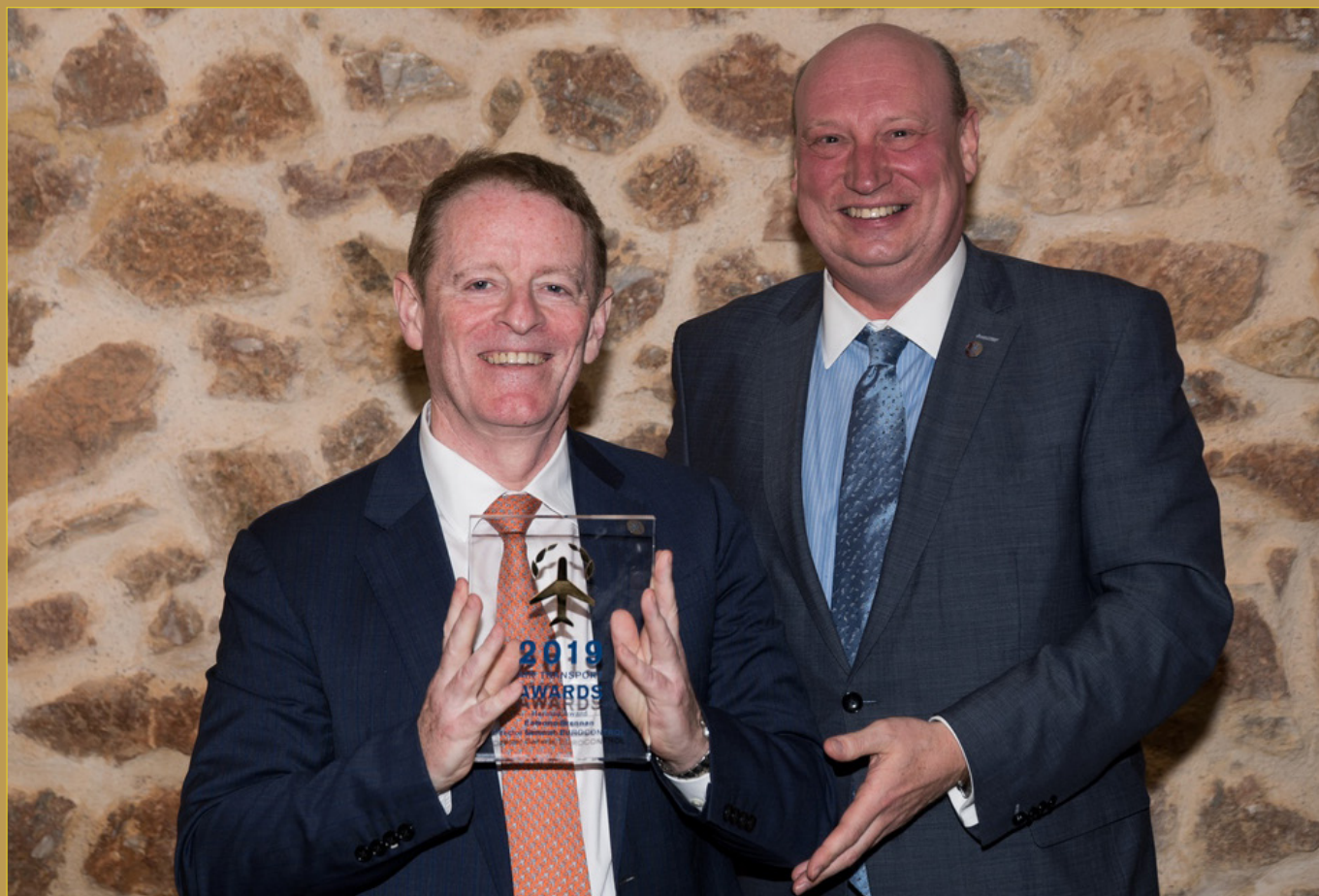




## *Eamonn Brennan, Director General of EUROCONTROL received the inaugural Hermes Award*

The Board of Hermes selected unanimously Mr Brennan for his contribution to air transport.

Upon receiving the award Mr. Brennan stated: *"I am truly honoured to have been selected as the recipient of the inaugural Hermes award. EUROCONTROL is an integral part of the aviation system and we are striving harder and harder every day to support the European aviation industry. I take great pride in the work that we do and I am delighted to accept this award as recognition for the good work that EUROCONTROL provides to our industry day-in and day-out"/*



## *Hermes and Mozarteum Foundation sign MoU*

During the 2019 Hermes Leaders Forum the participants witnessed the signature of the MoU between Hermes and Mozarteum Foundation (SMF) on behalf of Hermes, Dr Kostas Iatrou (Director General) and of Mozarteum Foundation, Dr Tobias Debuch (Managing Director).

Under this MoU, the two organizations establish a three year partnership with Hermes undertaking to offer SMF membership status with all attached privileges and rights and to provide SMF with a dedicated page

and to post SMF logo on its website. SMF in return will offer Hermes members exclusive invitations to its events, access to special guided tours through the Salzburg Mozart Museums, supply of all Mozart Week and all music event publications and will post Hermes logo on its website.

For this occasion Mozarteum Foundation presented exclusively to Hermes members by Mrs Gabriele Ramsauer, Director Museums, Mozarteum the Costa Violin and they had the opportunity to listen (cont.'d ►)



(cont.'d ►) **Hermes and Mozarteum Foundation sign MoU**

the violin that was played by Anja Morgenstern, concertmaster, Salzburg University Orchestra accompanied at the piano by Mrs Evgenia Votanopoulou Hermes member and President of Mozarteum Hellas.

**Mozart's Costa violin** is named for its builder, Pietro Antonio dalla Costa and, according to an original label on the inside, was made in Treviso in 1764. Dalla Costa modelled his violins on those of Amati, and they are highly prized as concert instruments nowadays on

account of their warm and powerful tone. Mozart probably acquired and played this violin in Vienna.

Following several changes of ownership, it was acquired by Dr Nicola Leibinger-Kammüller in 2013 with the intention of donating it to the Mozarteum Foundation.

**Mozart's Costa violin** has only traveled to eight countries and for the first time came in Greece and Iatrou Residence.





## Jeff Poole elected President of Hermes

**A**t the 2019 Annual General Meeting of the Hermes Air Transport Organisation, Jeff Poole (presently Director General of CANSO) has been elected as its second President.

Vijay Poonoosamy was named Honorary Member of Hermes, after having served six years as its first President. The Members at the AGM elected Luis Felipe de Oliveira as its new Board Member. The new Board of the Hermes Air Transport Organisation is:

- Jeff Poole, President
- Robert Deillon, Vice President & Treasurer
- Dr Kostas Iatrou, Secretary & Director General
- Henrik Hololei, Board Member
- Angela Gittens, Board Member
- Luis Felipe de Oliveira, Board Member

Jeff Poole said: *"I am delighted and honoured to be elected by the members of Hermes to be its next*

*President. Following in the steps of my very good friend Vijay is no easy task but I am committed to Hermes and look forward to overseeing a strong growth in its membership, relevance and influence of Hermes. Hermes has a unique position in the aviation industry because its members are individual aviation professionals rather than organisations, so we will continue to focus its further development and impact on the most important aspects and issues of humans and human performance in the aviation industry".*





## *The African Airlines Association and Hermes – Air Transport Organisation, have signed a MoU to deepen their cooperation*

**D**uring IATA AGM held in Seoul The African Airlines Association and Hermes – Air Transport Organisation, have signed a Memorandum of Understanding to deepen their cooperation.

*"AFRAA is delighted to sign this MoU with HERMES this 1st June 2019 in Seoul, South Korea in side of the IATA AGM. It will strengthen our cooperation with an important organization in the field of aviation."* said Mr. Abdérahmane Berthé, Secretary General of AFRAA. *"Continuing our objective and strategy to cooperate and partner with organisations around the world, we are delighted to sign this MoU with AFRAA. AFRAA plays an important role in airline organizations as it represents the airlines of Africa"* stated Dr Kostas Iatrou – Director General of Hermes – Air Transport Organisation.



## *Hermes Director General presents the recommendations on the O&C in ICAO ATS*

**D**irector General, Dr Iatrou, presented the highlights of the Hermes conclusions for ownership and control in commercial aviation at the Fourth ICAO Air Transport Symposium (IATS/4) held in Seoul from 8 to 10 May. Dr Iatrou participated also in the first session entitled "Liberalisation of international air transport: The journey so far".



## *Hermes hosted a reception at the IATA 75th AGM*

**H**ermes hosted for the fourth time a reception at the IATA 75th AGM & World Air Transport Summit held in Seoul on Saturday 1 June.

Dr Iatrou welcomed the guests by thanking IATA and Paul Steele, SVP of IATA, for giving Hermes, the opportunity to Hermes to host the event and Hahn Air for sponsoring the reception. He announced the latest developments of Hermes and announced the conclusion of an MoU with AFRAA, which was signed just before the reception. Finally he presented Luis Felipe de Oliveira, the new Board Member of Hermes. Luis Felipe de Oliveira said that he is honoured and pleased to be part of the Board and called the guests to participate in the next year Hermes AGM & Leaders Forum.





## *Hermes Board Members participate in the Discussion on Industry Partnership in the CANSO Global ATM Summit*

In the CANSO Global ATM Summit and 23rd CANSO Annual General Meeting (AGM) held in Tuesday 18th June Hermes Board Members Jeff Poole, President of Hermes & Director General of CANSO, Angela Gittens, Board Member of Hermes & Director General of ACI and Alexandre de Juniac, member of Hermes and Director General and CEO of IATA participated in the Discussion on Industry Partnership. Alexandre de Juniac, Director General of IATA, paid tribute to air navigation service providers (ANSPs) who keep the skies safe. As well as safety, he said that the airlines' expectations of CANSO Members were: efficient, reliable and cost-effective air traffic management; sufficient capacity in the face of rapidly growing air traffic; and greater transparency, consultation and collaboration between ANSPs as well as between ANSPs and stakeholders such as airlines and airports.

In addition, Angela Gittens, Director General of ACI, emphasised that the reliable and effective transmission of data is crucial to improving operational efficiency,

particularly collaborative decision making (CDM) between airports, airlines and ANSPs. A major concern for airports was the impact of aviation noise on local communities and she was pleased that CANSO and ACI were currently working on a joint publication on managing noise.

Jeff Poole emphasised that CANSO and its Members are addressing key issues in air traffic management (ATM), including capacity and delays and the introduction of new technologies. Successful ATM requires all stakeholders, including airlines, airports, States and regulators, to work in close collaboration and partnership.



## *Alexandre de Juniac joins Hermes*

Alexandre de Juniac Director General and CEO of IATA joined as member of Hermes – Air Transport Organisation.

*"I am honored to join Hermes. Along with its membership of leaders from across the air transport industry I look forward to Hermes making a significant contribution to the sustainable growth of aviation—the business of freedom."* said Alexandre de Juniac.

Dr Kostas Iatrou, Director General of Hermes said: *"We are delighted to welcome Alexandre as Hermes newest member. His knowledge and experience can help our organisation to achieve its targets".*







**HERMES**  
AIR TRANSPORT ORGANISATION



# 2019

## HERMES AGM & LEADERS FORUM Education and Performance in Aviation

Friday 3 May 2019 · Ekali · Greece

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# EDUCATION AND PERFORMANCE IN AVIATION

The aviation leaders gathered to discuss this year topic: *Education and Performance in Aviation*.

**Dr Kostas Iatrou**, *Director General of Hermes*, stressed that given both the traffic growth and the phenomenal changes brought by automation and artificial intelligence, the air transport industry needs to grow its awareness vis-a-vis these challenges, to pro-act with future needs in mind and this is making "education and training its top priorities"

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## KEYNOTE ADDRESSES

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**Henrik Hololei**, *Director General for Mobility and Transport of the European Commission*, welcomed the theme of the Forum because it focused on "the need to make sure that the best and the brightest are continuously attracted to this sector". He talked about the technological development of the years to come, from drones to artificial intelligence, which "will bring fundamental change in the way we go about our lives". The aviation sector needs to "ensure that these existing technological developments will be stifled by the lack of human skills ready to operate them and that will not undermine the social and working conditions of those who are working in the industry". He talked about "fit-for-purpose aviation professionals" and the need to "change our global approach to aviation training methods from a traditional qualification-based approach to a more competency-based method" that will "support continuous learning and performance improvement"

**Dr. Aliu**, *ICAO Council President*, highlighted the current rate of traffic growth confronting global aviation and the many challenges it poses for the next generation of aviation pilots, technical specialists, managers and leaders, stressing that "while this growth in connectivity is highly beneficial to global socio-economic prosperity, it also carries with it some critical challenges given that increasing flight and passenger volumes need to be properly assessed and managed to maintain the

historically remarkable safety and efficiency of our network."

"This is why the enhancement of regulatory capacity, and the modernization of aviation infrastructure and human resources development approaches, has become critical and why we needed to prioritize the effective alignment of national and regional aviation development plans with ICAO's Global Plans," Dr. Aliu emphasized.

**Alexandre de Juniac**, *Director General and CEO of IATA*, highlighted three areas where he sees as challenges in finding, retaining and developing the people that "we will need to take our industry—the business of freedom—into the future":

- Positioning aviation as a responsible industry and a good career opportunity;
- Finding learning and development resources in developing nations; and,
- Balancing gender across all aspects of aviation and at all levels of seniority.

He stated that there are two common elements in all three of these.

- The first is the need for urgency. It will take time to achieve results in these areas. "But that is no excuse to delay action. The world in which we do business is rapidly changing and we need a workforce that is developing at an equal—if not greater—pace"
- The second is the need for a multi-stakeholder approach to finding solutions. "No single entity will be able to deliver success".

He commended Hermes—a multi-stakeholder leadership forum—on taking up the topic of Education and Performance as its theme for the year.

**Angela Gittens**, *Director General of ACI World* spoke on the importance of training and recruitment in the aviation sector at the Hermes AGM & Leaders Forum, dedicated this year to Education and Performance in Aviation.

"According to the latest ACI World Airport Traffic Forecasts global passenger traffic is expected to double to 16.97 billion by 2034," she said. "This is based on a projected growth rate of 4.3% per annum and to 20.9 billion passengers by 2040, based on a 4.1% compounded annual growth rate."

"Meeting future growth also requires investing in a skilled, committed and diverse talent pool. I'm proud to report that ACI Global Training is the world's leading provider of airport management and operations education."

"We offer executive leadership, professional accreditation, subject-matter competency and personalized in-house training courses, with delivery in the classroom as well as a wide range of web-based coursework."

## SESSION 1

The first session on **"WHAT ARE THE CHALLENGES SET BY AUTOMATION AND ARTIFICIAL INTELLIGENCE FOR THE FUTURE OF AVIATION EDUCATION AND TRAINING"** was started off with the moderator Alex de Gunten of HEICO stating that after many years of crises aviation can be proud of both its growth and safety records. This profitability is necessary for sustainability. Still there are many problems since it takes longer to go to and through the airport. The significant technological development in the form of new engines and new aircraft is expected to cause major disruption in the way aviation work and there has been less advancement in the training of personnel to deal with these changes.

**Captain Aysha Al Hamili**, *UAE permanent representative to ICAO Council*, stated that the aviation has always been an industry that embraces technological evolution but this time things are a bit more tricky. Thanks to machine learning and artificial intelligence. It is technologically possible to have one-pilot or no-pilots flights which have been proven to be better, faster and safer, but customers are not psychologically ready to accept it. Only the younger generation is more open to such changes.

In his turn, **Florian Guillernet** stated that technology has some problems since the new energy sources are more expensive and complicated to produce and although the digital transformation is kicking in, the industry has been

less imaginative in how to bring all these innovations in operation and he mentioned the example of the SESAR project which although it promises better trajectories it faces difficulties in moving into operation.

Another problem mentioned is the conservatism and the complacency of the industry and the old system of financing. The regulators should support the developments and act as enablers and incubators to fight the silo effect as the new technologies will improve the system across the whole chain.

Another interesting point raised is that the new generation Y and Z accustomed to information sharing need new ways of teaching which represent a big challenge and this new way of teaching should be tailored to the needs of the industry. These new technologies create huge amount of data raising the question whether these data should be open to all or should there be restricted access since whoever has instantaneous access to data would be able to analyze.

## SESSION 2

In the second Session focusing on **"HOW EDUCATION AND INDUSTRY DYNAMICS SHAPE THE FUTURE OF INDUSTRIAL RELATIONS AND HUMAN RESOURCES MANAGEMENT IN THE AVIATION SECTOR"** the moderator Professor Andreas Papatheodorou, Editor-in-Chief of the Journal of Air Transport Studies stated that automation promises higher output with lower cost but there are long term technical issues involved because these new aircrafts need new pilots and new engineers. The industry seems unable at the moment to attract "the best and the brightest" in aviation related jobs putting the future at risk. He also referred to the need to achieve gender diversity in aviation and to call in different segments of the population to participate.

**Dr Yiannis Paraschis**, *CEO of Athens International Airport*, was the first to speak and he talked about the experience of the Athens International Airport which required creating an airport company from zero basis. It was difficult to draw personnel from the market and the airport to create the skills, to support and to train the people to run the airport, which was costly. Athens International Airport boasts gender diversity as 40% of the personnel are females throughout the hierarchy except for the top 14 positions. The majority have come from other industries and become aviation experts, so there has been an osmosis between



the various fields and the traditional aviation career. The size and the character of the market have given airport significant gravitas and have enabled it to attract top employees of the country.

He stated that an airport is a “supermarket of services” ranging from aviation to consumer service and technical support, which means that it offers a versatile profile of options and career opportunities for both generalists and specialists. He finally added that aviation business asks from staff to be able to think critically and creatively and to develop communication and cooperation skills.

The second panelist, **Luis Felipe de Oliveira**, *Executive Director of ALTA*, continued on the same line and stressed that aviation is moving from technical skills and the stem education towards “soft skills”, that’s why there are many pilots nowadays pursuing MBAs. He pointed out that young people are not interested today in technical engineering or in working in a mature even if it is global industry, in other words working in aviation is no longer attractive and exciting the way flat-hierarchy start-ups are.

He suggested that aviation should approach young people when they are still at high school and they are about to chose their studies.

On the issue of gender balance he stated that this depends on the country as there are countries such as Thailand where women airport executives are more than men. But most of the time women come from a legal, marketing or communication background and not from a technical one. He added that experience has showed that the more the mix of cultural and gender background of the training programs or work environment the better the performance and such variation enables participants and coworkers to develop strategy to learn from each other and to focus on best practices.

Another point he raised is given the changing demographics and fast pace of trend evolution education should move from concentrating on qualifications to focusing on competence. Focus on competence means the importance lies on whether you can do what you have to do and that negotiating skills are paramount. In other words, knowledge has to be assessed in context.

He finally stated that by now aviation performance moves around four pillars:

- excellence of assets
- proper system management, that is optimization of the use of assets

- excellence of human capital with competency requirements changing
- governance structure and commercialization.

**Dr Pierre Coutu**, *Program Executive of AMPAP program* stated first that sustainability is a commercial imperative but now sustainability is not only the economic ones that focuses on profit and generates growth and wealth but also an environmental one that put limitations for society and the environment. He blamed the endoscopic tendencies of the transport- not only aviation-industry for losing the “glamour” of past times and its inability to attract young people and called for a social inclusive growth.

A participant talked about the new concepts of marketing, the 4 Cs: customer solution instead of product, cost and consumer instead of cost, convenience instead of place and communication instead of promotion and urged the aviation sector to apply these concepts to achieve sustainability.

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## PRESENTATION

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In his presentation entitled “**RESPONDING TO THE NEEDS OF THE NEXT GENERATION OF AVIATION PROFESSIONALS... SUSTAINABLY**” **Michael Gill**, *Executive Director of ATAG*, started off by referring to the distinctive character of the millennials and Z generation, the pool of aviation professionals and who represent 1/3 of the global workforce. He pointed out that they live in a completely different world and have different priorities. They are people who say yes to everything new, they can do two things at once, are highly skilled, confident enough to challenge established norms and have social and environmental consciousness. They are not only interested in a decent salary but they also value flexibility, cultural and educational diversity and travel opportunities and they are proactively seeking out to satisfy these. These generations even in the emerging markets are committed on the sustainability agenda, supportive of means to reduce climatic change and want to bring about tangible change to the world.

He called the aviation industry to engage with the new generations, educational managers to adapt to their aspirations and trends so as convince them that airports and aviation are a great place to build a career because it

is a sustainable industry that supports and fosters cultural and gender diversity. "Sustainability has to be the key" to make aviation a "magnet for the workforce"

### SESSION 3

The third Session dealing with **"WHO WILL BEAR THE COST OF EDUCATION AND TRAINING IN THE AVIATION SECTOR"** was moderated by Jeff Poole, Director General of CANSO and Board Member of Hermes - Air Transport Organisation who stressed that since it is essential for the aviation business to maintain talented professionals, the industry needs to decide what the future requirement will be. It is in the common interest of the whole aviation chain and all stakeholders to take initiatives on a local, national, regional and international to proceed to meaningful and effective dialogues and to set a common vision. "We will go fast if we go together".

**Alex de Gunten** of *HEICO*, stressed that it is essential to find ways to link academia with the industry as until now they move on concentric cycles, they intersect at some point but they remain separate. Forums on bilateral and multilateral level are needed to relate the stock of knowledge with the know-how of the business to achieve tangible results. This can be achieved through the meaningful work and education partnerships.

**Dr Michael Kerkloh**, *President and CEO of Munich Airport and Chairman of ACI Europe* presented Munich Airport's system of training. He stated that the airport has its own training academy and every year they receive 3,000 applicants who follow 35 different training programs and from these 3,000 100 become employees of the airport. On top of that, they have established programs with Frankfurt Airport and academia, a joint program with Lufthansa and cooperation with other quality "best" airports such as Singapore, Beijing and Johannesburg, which includes management exchange.

He stressed that the training of pilots is long and costly and there is currently a shortage of pilots and mechanics. Airlines traditionally have depended on the airforce to draw technical personnel. He called governments and the industry to help and encourage the education and training of pilots and mechanics.

**Professor Triant Flouris**, *Provost of the Hellenic American University*, raised the issue of the outdated curriculum that is still the same of that of 30 years ago. He stressed the need to both update the curriculum and use resources efficiently. He underlined the difference between license and education and called regulators to remove the artificial barriers that do not allow pilots to work everywhere and he mentioned the example of Brazil, where one need to be a Brazilian citizen to fly in Brazil.



# EDUCATION AND PERFORMANCE IN AVIATION

First, it is important for the industry to gain comprehensive situational awareness of its status and future needs. This can be gained through a series of studies and needs-analyses that focus on current industry standing and future prospects. These will include but not be limited to: salary levels, levels of technology penetration, employee satisfaction and mobility (inter and intra). Specific policies and recommendations can be more effectively drawn and produce tangible and systematic results in the long run if they are based on comprehensive data gathered through these studies. International organizations will be of importance in assisting with data gathering and helping to shape the questions addressed by these studies.

Second, effective and systematic industry-education partnerships must be developed at national, regional and even global levels that will provide a framework for addressing future educational and training priorities of the industry. A framework such as the abovementioned can provide for a flexible and sustainable means to address future industry needs.

Third, it is important that the aviation industry examine best practices found in other industry settings in regard to effective training and education regimes, industry-education partnerships, as well as employee satisfaction and retention. Otherwise, the aviation industry may be outcompeted for the best talent by industries perceived as providing better opportunities for employment and advancement.

Fourth, it is important to ensure that current aviation employees can be usefully re-deployed or re-trained. The acquisition of educational skills should prove flexible enough to accommodate technological disruptions in a service sector such as aviation. At the same time, the aviation industry must hire recruits with the soft skills, such as customer service, that are so important in the industry. Moreover, education and training in aviation should address gender imbalances. Finally, aviation industry stakeholders should become more proactive in partnering with educational institutions, both traditional and more specialized.

Finally, the industry should carefully assess and address the repetitional risk arising from negative environmental externalities to effectively inspire the new generations to work in the sector.





















**Italian Hipster smiles**  
**at Athens International Airport**  
Ceramic, 2019 A.D.

THE AUTHENTIC SMILES



# EDUCATION AND PERFORMANCE IN AVIATION

## Realising and Sustaining Benefits

### HIGHLIGHTS

- Air traffic is expected to double over the next twenty years. Hiring and retaining aviation personnel is therefore essential.
- Education and training in aviation should be considered as an investment based on three major factors, namely cost, return and risk.
- Major industry challenges include: Meeting the needs of a growing industry, competing for and retaining personnel, filling the gender gap and addressing training in automation and artificial intelligence.
- It is important for the industry to conduct studies in order to gain comprehensive situational awareness of its status and future needs.
- Effective industry-education partnerships must be developed to provide a framework for addressing future educational and training priorities.
- Best practices should be adopted from other industry settings for the aviation industry to successfully compete for personnel.
- Training and education programs should be developed so that current aviation employees can be usefully re-deployed or re-trained.
- Education and training in aviation must address diversity imbalances in order for the industry to attract and retain the required personnel.

### 1. INTRODUCTION

Air traffic is expected to double over the next twenty years. This will inevitably create new challenges in terms of equipment (e.g. aircraft) and infrastructure (e.g. IT systems, airports), but also in terms of hiring and developing personnel. In this context, education and training in the sector (both of technical and managerial) should not only be seen as a cost, but as the roadmap to competitiveness and success in the marketplace. Putting people first is of essence in an increasingly automated sector and appropriate policies should be designed to address the various knowledge and skills gaps. Moreover, it is important to reach the appropriate scale of sec-

tor-educated and trained people to realise and sustain benefits for all involved stakeholders. Addressing, therefore, the issue of education and training in the sector becomes of major importance from both a quantitative (i.e. number of educated employees) and qualitative (i.e. in terms of bridging the skills gap between what is needed by the market and what is offered by education service providers) perspective.

In this report, we discuss education and training as an investment, outline challenges faced by the aviation industry in recruiting and retaining personnel, and detail actions that may be undertaken by the industry in improving its training and educational strategy.

## 2. EDUCATION AND TRAINING IN AVIATION AS AN INVESTMENT

In this context, it is useful to consider education and training in aviation as an investment based on three major factors, namely cost, return and risk. To the individual seeking training and development, the cost has two major components; that is, the monetary aspect in terms of tuition fees and the time dimension related to the time spent on being trained. Returns refer to the salary, career progression and non-pecuniary benefits (such as health insurance and benefits-in-kind, such as free flights) that may be received from an aviation career. Risks refer to the possibility of not gaining employment after having received the education and training, as well as the possibility of being locked into a sub-optimal career progression path due to low transferability of the acquired skills. There are also costs, benefits and risks to the aviation organisation. The organisation may incur costs either directly through in-house training or by subsidising training at partner or third-party organisations. Benefits include improved performance from trained personnel and increased retention of personnel. Risks include the possibility of trained personnel leaving the organisation, perhaps even to competitors.

With the above in mind, if education and training in aviation is to progress and thrive in the future, the following should be seriously considered.

**First**, who should bear the cost of training and education? Should the cost be borne by the trainee, by the aviation service provider (i.e., airline, airport, ANSP, etc.) or even by the government? In an increasingly market environment of post-secondary education, governments in many countries may be reluctant to fund industry-specific training. As aviation education and training may be costly to provide, predominantly in the case of training flight crews, but also with other operational and managerial skills, interested individuals may choose other less-costly careers. In fact, many aviation service providers, and especially airlines, operate with low profit margins, thus reducing their capacity and their inclination to fund training, especially if skills can be easily transferred to other organisations. Similarly, governments may be reluctant to subsidise aviation training, even external benefits from the aviation sector (e.g., to trade and tourism) given other spending priorities and negative externalities from the sector, such as carbon emissions.

**Second**, the aviation sector may not be as appealing to new recruits, as was the case in the past. Many people in the Generation Y and Generation Z age groups may be attracted by firms perceived to be operating in more dynamic industries, such as, start-ups in the IT sector, characterised by potentially very large returns and the excitement of working in “cutting-edge” positions. Furthermore, the aviation industry may be seen as not as “green” as other industries given its contribution to

greenhouse gas emissions. Young recruits may prefer to work in industries considered to be better for the environment.

**Finally**, given the rapid changes in technology, risks in aviation education and training may be rising. Labor in this industry may be replaced by technology, as key positions, such as air traffic control, are transformed due to technology. Unless training organisations are at the cutting edge of technology, it may be that the skills and education gained by students will be obsolete in the near future.

## 3. CHALLENGES TO MEET

Given the above discussion, the following challenges emerge with respect to education and training in the aviation industry:

- a) **MEETING THE NEEDS OF A GROWING INDUSTRY:** The aviation industry is projected to continue to grow over the upcoming years, with growth faster in some areas of the world, such as Asia-Pacific and Africa. This growth will generate increasing needs for personnel in all areas of the aviation sector.
- b) **COMPETING FOR PERSONNEL:** Aviation must compete with other industries for available personnel. As populations age in many areas of the world, there are fewer “young people” as a proportion of the population. Traditionally, the aviation industry has relied on travel benefits as incentives for attracting new recruits to the industry. However, these may not be the primary benefits demanded by the younger generation. They may be more interested in personal development and growth opportunities. Moreover, much of the aviation industry has traditionally not been as profitable or provided the job security as other industry sectors. So, based on pay, personal growth and development, and job security, the industry may find it difficult to compete for personnel with other more attractive and higher-paying industries.
- c) **RETENTION:** Related to the challenges of hiring new personnel, is the problem of retaining personnel. Given the needs for personal growth, the industry will have to develop in-house training programs and partner with educational providers in order to facilitate this growth. Retention is especially a problem in regions of the world with lower pay levels, as personnel may migrate to higher paying positions outside the region. Therefore, creating growth opportunities within these lower-paying areas is especially important.
- d) **PROVIDING TRAINING OPPORTUNITIES:** The aviation industry, itself, cannot fully meet its training needs. Therefore, it needs to partner with educational institutions and other training providers. It may be that traditional educational institutions are best suited to providing the “soft-skills”



needed by the industry. However, the aviation industry will need to compete with other industries for these new hires. There are ways that the aviation industry may increase the probability of hiring new recruits from these educational institutions, such as offering internships, working with the placement offices in the educational institutions, and volunteering as guest speakers in classes. On the other hand, training in the technical skills may best be offered in-house or in partnership with specialised training organisations. Traditional higher educational institutions generally do not have the expertise needed to provide this type of training.

e) **FILLING THE GENDER GAP AND ADDRESSING DIVERSITY:** In a liberalised and commercialised environment, knowledge of economics, management, marketing and soft skills become essential to effectively running a business. Recruiting personnel in these areas, as well as in more technical areas, is essential. As a result, the industry must look to recruit individuals currently underrepresented in aviation. In particular, recruiting more women will be required, since the percentage of women in the industry is relatively low, compared to the percentage of women in the workforce, in general.

f) **AUTOMATION AND ARTIFICIAL INTELLIGENCE:** Aviation education should be pursued as a STEM field, focusing on helping recruits and current employees discover science and technology fundamentals. Expected developments in

technology may have important implications for aviation jobs in the future and the training of personnel to undertake these positions. Unmanned and remotely controlled aircraft may question the need to train pilots; robots may be able to undertake many operational tasks currently undertaken by people; blockchain technology may reduce errors and the need for control; while artificial intelligence may render data analysts and managers less important if not redundant.

#### 4. RECOMMENDATIONS

**First**, it is important for the industry to gain comprehensive situational awareness of its status and future needs. This can be gained through a series of studies and needs-analyses that focus on current industry standing and future prospects. These will include but not be limited to: salary levels, levels of technology penetration, employee satisfaction and mobility (inter and intra). Specific policies and recommendations can be more effectively drawn and produce tangible and systematic results in the long run if they are based on comprehensive data gathered through these studies. International organisations will be of importance in assisting with data gathering and helping to shape the questions addressed by these studies.

**Second**, effective and systematic industry-education partnerships must be developed at national, regional and even global levels that will provide a framework for addressing future educational and training priorities of the industry. A

framework such as the above-mentioned can provide for a flexible and sustainable means to address future industry needs.

**Third**, it is important that the aviation industry examine best practices found in other industry settings in regard to effective training and education regimes, industry-education partnerships, as well as employee satisfaction and retention. Otherwise, the aviation industry may be outcompeted for the best talent by industries perceived as providing better opportunities for employment and advancement.

**Fourth**, it is important to ensure that current aviation employees can be usefully re-deployed or re-trained. The acquisition of educational skills should prove flexible enough to accommodate technological disruptions in a service sector such as aviation. At the same time, the aviation industry must hire recruits with the soft skills, such as customer service, that are so important in the industry. Moreover, education and training in aviation should address gender imbalances. Finally, aviation industry stakeholders should become more proactive in partnering with educational institutions, both traditional and more specialised. Effective industry education partnerships can be built in two ways: **(a)** Through direct partnerships between aviation businesses/organisations and academic institutions/training centres. These partnerships can focus on specific skills that need to be developed in the industry. **(b)** Through networks that include government, academia and industry that can address skills required by the aviation industry, as well as many other industries.

#### 2019 HERMES REPORT COMMITTEE

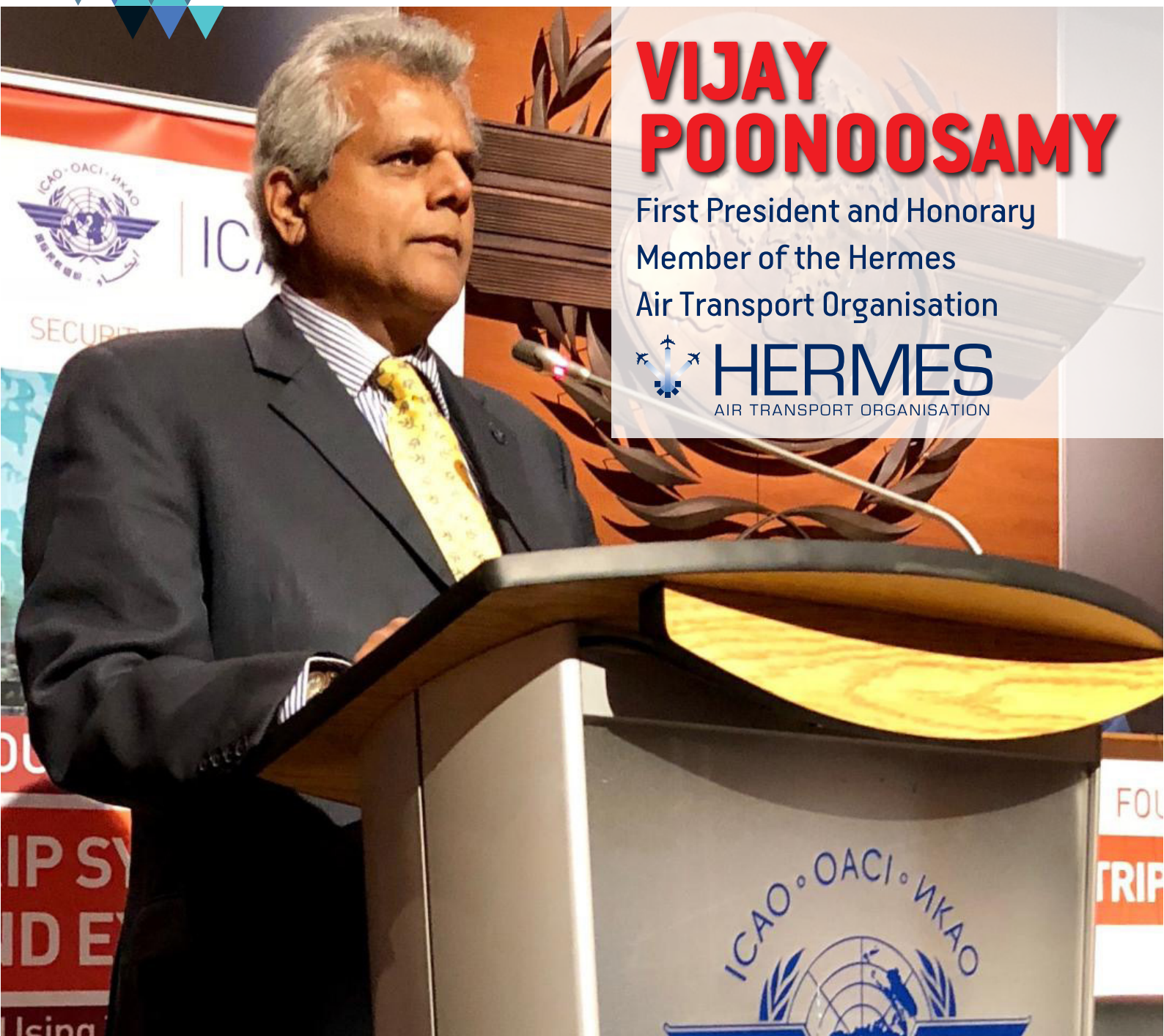
**CHAIRMAN:** - Professor Martin Dresner, University of Maryland & President, ATRS

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-Professor Triant Flouris, Provost, Hellenic American University

-Professor Dr Andreas Papatheodorou, Editor-in-Chief, Journal of Air Transport Studies

# INTERVIEW



## *How valuable is international air transport?*

International Air Transport is much more than the sums of its parts. It makes possible the rapid movement of millions of people and billions of dol-

lars' worth of goods to markets around the world and its multiplier effects are formidable catalysts to socio-economic progress. A country's or region's competitiveness is directly related to its air connectivity.

A more dramatic demonstration of the critical importance of aviation was made in 2010 when Iceland's volcanic ash turned much of European airspace into a no-fly zone for a week leading to the closure of 300 European airports,





over 100,000 cancelled flights and more than 10 million stranded passengers.

Those developments provoked losses of over €250 million at airports across Europe, cost airlines worldwide US\$ 1.8 billion, cost the global ATM sector €25 million per day and cost the world \$5 billion in lost GDP.

Air transport also promotes peace, friendship, good fellowship and mutual understanding amongst the peoples of the world by allowing us to experience first-hand the formidable value of what we share and what we can learn from each other.

It is clearly in the vested interests of everyone to do what it takes to ensure that nothing is done to clip the wings of a sector that enables communities to take-off and to learn about mutual respect.

### *How can international civil aviation be best supported?*

I am blessed to have been able to work closely, for more than 30 years, with Governments, ICAO, the African Union and AFCAC, with airlines and IATA, with airports and ACI. I understand the significant roles of all the Stakeholders of international civil aviation and believe in progressive consensus building among all of them to develop the necessary synergy to pursue a shared vision.

International civil aviation flows smoothly when all participants work in harmony and enlightened self-interest should make us realize how better off we all will be if we can work intelligently together.

I believe that it's only when the Stakeholders work intelligently together that we can harness the formidable

strategic power of air transport to foster socio-economic growth, jobs, understanding and happiness for people, cities, countries, regions and the world.

In my numerous engagements with ICAO and its Member States, including as Chairman of the 1994 ICAO World Wide Air Transport Conference and as Chairman of the 1998-1999 ICAO Special Group on the Warsaw Convention Governing International Air Transport, I have always been impressed and inspired by the ability of Delegates to make the necessary compromises to secure fair and equitable global solutions.

We must always promote a worldwide culture of communication, cooperation and collaboration within the aviation sector.

That's because as States, as regulators, as air navigation service provid-





*We are and  
will remain a  
community of  
linked interests  
and together  
we make a  
formidable  
difference*

ers, as airlines, as airports, as consumers, as employees, as manufacturers, as tourism agencies, as ICAO, UNWTO, IATA, CANSO and ACI we need each other, and we depend on each other.

*Is this why you accepted to be the Founding President of the Hermes Air Transport Organisation?*

My dear friend Kostas Iatrou shares my beliefs and when he invited me to support his brain child, the Hermes Air Transport Club, I immediately accepted because I saw the opportunity to bring together seasoned professionals who are committed to improve the state of the air transport sector.

I was honoured to be the Founding President and with the support of a fantastic Board, which included Angela Gittens, the Director General of ACI International, Jeff Poole, the Director

General of CANSO and Henrik Hololei, the Director General of the European Commission's DG MOVE, we evolved into the Hermes Air Transport Organisation, headquartered in the global aviation capital of Montreal.

After 7 years as President, I stepped down in May 2019 with the confidence that, with Jeff Poole as the new President and Kostas Iatrou as the Director General, the Hermes Air Transport Organisation will play an increasingly

valuable role in the development of international civil aviation. I look forward to making my contribution as a newly minted Honorary Member of the Hermes Air Transport Organisation!

*As an African how do you see the future of African Air Transport?*

Africa's take-off is linked to the take-off of African air transport. The take-off of African air transport is, in turn, linked to national, regional and continental air transport policies which promote safe, secure and sustainable air connectivity to, from and within Africa.

The contributions of ICAO, the African Union, AFCAC, AFRAA, ACI Africa and other Stakeholders in the development of these policies are critical. All African Governments should adopt the Single African Air Transport Market, the Africa Continental Free Trade Area and



the Protocol on the Free Movement of People and Goods. All African airlines should cooperate to allow for significant cost reductions through the elimination of wasteful redundancies and the leveraging of economies of scale and to help drive revenues through strategic synergies.

The African continent has a population of 1.3 billion or 16.6% of the world's population and at 53 holds the world's highest number of countries. Africa, however, accounts for less than 4% of the world's air transport passengers. African airlines carry less than 40% of Africa's air traffic.

African air transport only supports around 6.9 million jobs and \$80 billion in economic activity whereas globally air transport supports 65.5 million jobs and \$ 2.7 trillion in economic activity.

But Africa is at the dawn of its renaissance and so is African Air Transport. By 2050, Africa's population is expected to be 2.5 billion or 26.6% of the world's population.

Africa's passenger numbers are set to double by 2035 and triple in the next 20 years with a growth of 5.4% per annum whilst the global average is expected to be less than 5% per annum over these periods.

Whether these formidable international opportunities are going to be mostly seized by non-African airlines and whether these formidable intra-African opportunities are going to be mostly missed will depend on the willingness and ability of African Governments and their Stakeholders to work and win together and on the willingness and ability of African airlines to do the same.

### ***What do you see as the key challenges of international air transport?***

We need to remain vigilant about safety, security and the need to maintain public confidence in the governance and oversight of international air transport.

On the environmental front, I salute the ICAO Council for its June 2018 adoption of the First Edition of Annex 16, Volume IV, to the Chicago Convention less than two years after ICAO's 192 Member States achieved at ICAO's 39th Assembly the historic agreement on the Carbon Offsetting and Reduction Scheme for International Aviation, or 'CORSIA'.

All Stakeholders must keep pushing the scientific and technological frontiers and intelligently remove all the political, social and commercial barriers in order to diligently secure environmentally





*Vijay Poonoosamy with Ms. Phumzile Mlambo-Ngcuka, Executive Director of UN Women and Under-Secretary-General of the United Nations.*

friendlier air navigation systems, aircraft, engines and aviation fuels.

With the impressive growth of air transport, we must also focus on Facilitation and the Next Generation of Aviation Professionals. We must also do much more the effectively deal with air transport sector's notorious gender imbalance.

#### *How critical is ICAO's role?*

International Civil Aviation is global by definition and its challenges must be addressed uniformly at the global level.

ICAO is the only recognized multilateral body whose specific mission is to bring together the States of the world in establishing and maintaining a global, harmonized regulatory framework.

We therefore need an efficient and effective ICAO to deal with the critical issues relating to Aviation Security, Aviation Safety, air navigation, environment protection, air transport liberalisation, facilitation and the legal framework.

With the ever-growing passenger numbers, we must all ensure that everything is done to develop and to follow a strategic and holistic roadmap which promotes the safe, secure, sustainable and seamless growth of international air transport.



We must all work effectively together to protect the international air transport chain, recognizing that it can never be stronger than its weakest link. Hence the need to support ICAO's formidable efforts to make the international air transport chain stronger by ensuring that no country is left behind.



## 2019 ACI ASIA-PACIFIC/WORLD ANNUAL GENERAL ASSEMBLY & CONFERENCE - Hong Kong 2-4 April 2019

The 2019 ACI Asia-Pacific/World Annual General Assembly & Conference under the theme “What’s next for aviation? The future starts now,” was held in Hong Kong 2-4 April.

Chair, ACI World, President, Aeropuertos Argentina 2000 and CEO, Corporacion América Airports, **Martin Eurnekian** highlighted the importance of the event and of collaboration: “In light of future air travel demand, this event provides aviation leaders and industry stakeholders the opportunity to put our heads together and to think critically and creatively about key topics,” he said as he welcomed delegates to the conference. “We will seek solutions including the task of accommodating growth, major developments in aircraft operations, resilience and adaptation to climate change, the customer experience revolution, new experiences in travel technologies, and innovations in security.”

President, ACI Asia-Pacific, and Chief Executive Officer, Changi Airport Group, **Lee Seow Hiang**

said the event provides a unique opportunity to address and explore the challenges for the future of airports and aviation as economic and social engines: “Asia-Pacific region has been a key driving force contributing to the world’s robust air traffic growth for the past decade,” he said.

*“ACI forecasted that eight out of the top ten fastest growing countries for passengers in 2017-2040 are from Asia-Pacific and the Middle East. There is no one-size-fits all in how we manage, fund or invest in our airports. Recent trends point to privatization as a way to finance much needed infrastructure investments as means to increase capacity.”*

*“Amidst the anticipated growth and building capacity, we in the aviation industry, in cooperation and collaboration with government and stakeholders, need to provide a good passenger experience, keep the system safe, secure, efficient, economically and environmentally sus-*





The Honourable **Carrie Lam Cheng Yuet-ngor**, Chief Executive, Hong Kong SAR Government. **Zhiyi Dong**, Deputy Administrator, Civil Aviation Administration of China. **Jack So**, Chairman, Airport Authority Hong Kong. **Fred Lam**, Chief Executive Officer, Airport Authority Hong Kong. **Dr. Fang Liu**, Secretary General, ICAO. **Martin Eurnekian**, Chair, ACI World, President, Aeropuertos Argentina 2000 and CEO, Corporacion América Airports. **Angela Gittens**, Director General, ACI World. **Lee Seow Hiang**, President, ACI Asia-Pacific, and Chief Executive Officer, Changi Airport Group. **Patti Chau**, Regional Director, ACI Asia-Pacific.

*tainable. It is important that we listen carefully to the needs of the communities that we all serve.*

**Fred Lam**, Chief Executive Officer of Airport Authority Hong Kong, said, *"I would like to thank ACI for choosing Hong Kong as the venue for this important event, and I am grateful to all of our participants for flying all the way to Hong Kong to attend this year's conference."*

*"Hong Kong is renowned for its sophistication as a modern, international city, yet endowed with rich Chinese culture and traditions. It is our pleasure and honour to host the aviation industry's flagship events in Hong Kong to facilitate exchange of ideas and knowledge among airport operators and partners."*

Praising the many cost and efficiency benefits realized through the close cooperation in place between ICAO and the Airports Council International (ACI), ICAO Secretary General **Dr. Fang**

**Liu** discussed a range of leading edge developments the UN aviation agency is now exploring. Dr. Liu highlighted that ICAO is focusing global attention on some very exciting and even revolutionary aviation developments presently confronting global air transport. *"Whether we're focused on the increasing prevalence of drone operations or commercial space transport, ICAO has been grateful for the proactive inputs from ACI, governments, and other air transport stakeholders as we seek to anticipate and close the gaps that might constrain future air transport growth and innovation,"* Dr. Liu emphasized.

Dr. Liu concluded by noting that these efforts would operate in parallel to ICAO's separate strong priority to make governments aware of the significant network capacity and efficiency expansion now required in many areas of the world, and of the investments required to support this development and modernization.



2019 ACI Asia-Pacific/ World Annual General Assembly, Conference & Exhibition.

**Session 1: Leader's Forum - It's all about Capacity.**

At the Leaders' forum, **Sheikh Aimen bin Ahmed Al Hosni**, CEO, Oman Airports Management Company said that many big airports are built in Middle East reflecting the area's present and future growth. Oman Airports had a growth of 27% but they are not focusing on building a runway or a terminal but mostly on technology.

The Royal Schiphol Group **Dick Benschop**, President and Chief Executive Officer, pointed out that despite ATC limitations Amsterdam Airport registered a 4% growth last year.

**Martin Eurnekian**, President, Aeropuertos Argentina 2000, CEO, Corporacion América Airports and Chair, ACI World stressed the issues of political threats of the world from populism and nationalism and their potential impact on aviation. He emphasised also the airport contribution to the climate change and this is why important for airports to grow in a sustainable fashion.

**Deborah Flint**, CEO, Los Angeles World Air-

ports said that LAX is the second busiest airport in US and made a reference to the investments on the land side on the railway system for the 2028 Olympics.

**Elena Mayoral**, Managing Director of AS Madrid-Barajas Airport, AENA Aeropuertos S.A. said that the airport's masterplan is that Madrid will have become the hub between Asia and Latin America by 2016. The plan will include the move of hub operations to T4 and T4S.

**Emmanuel Menanteau**, Co-CEO, Kansai Airports and Director, Asia, Vinci Airports focused on last year's typhoon and how it affected Kansai Airport.

**Rupert Hogg**, CEO, Cathay Pacific Airways Limited emphasized that given the symbiotic relations between airlines and airports, airlines have to invest on modern fleet.



## What's next for aviation? The future starts now



ACI released several key products and services to promote airport excellence in the areas of security, facilitation and services, and customer experience. The overall aim is to help ACI member airports address current and emerging issues, offer ACI best practices, and to contribute to the sustainable growth of the industry.



- Cybersecurity for Airport Executives Handbook, which highlights critical actions that need to be taken at Board level to address cybersecurity. This will be complemented by an implementation handbook, planned for release in the second quarter of the year, aimed at providing more detail on how cybersecurity can be addressed, both organizationally and technically
- Airport Business Continuity Handbook, which provides airport operators with useful actions to create a robust business continuity management plan in order to prepare for, respond to, mitigate, and recover from potential events that may disrupt normal business operations
- Addressing Insider Threat Handbook, offering a range of best practices that can be combined to form a robust multi-layered system, and which are in line with ACI's risk-based approach to Security, and
- The ASQ Customer Experience Accreditation programme, a new multilevel accreditation developed through ACI's globally-established Airport Service Quality (ASQ) programme which helps airports assess their level of maturity regarding its management of customer experience and service quality.

# IATA ANNUAL GENERAL MEETING

## 75th IATA AGM

Seoul, 1 - 3 June 2019



Source: IATA

**Alexandre de Juniac** Director General and CEO of IATA. Annual Report of the Air Transport Industry.

The International Air Transport Association (IATA) announced a downgrade of its 2019 outlook for the global air transport industry to a \$28 billion profit (from \$35.5 billion forecast in December 2018). That is also

a decline on 2018 net post-tax profits which IATA estimates at \$30 billion (re-stated).

The business environment for airlines has deteriorated with rising fuel prices and a sub-

stantial weakening of world trade. In 2019 overall costs are expected to grow by 7.4%, outpacing a 6.5% rise in revenues. As a result, net margins are expected to be squeezed to 3.2% (from 3.7% in 2018). Profit per



passenger will similarly decline to \$6.12 (from \$6.85 in 2018).

“This year will be the tenth consecutive year in the black for the airline industry. But margins are being squeezed by rising costs right across the board—including labor, fuel, and infrastructure. Stiff competition among airlines keeps yields from rising. Weakening of global trade is likely to continue as the US-China trade war intensifies. This primarily impacts the cargo business, but passenger traffic could also be impacted as tensions rise. Airlines will still turn a profit this year, but there is no easy money to be made,” said **Alexandre de Juniac**, IATA’s *Director General and CEO*.

The International Air Transport Association (IATA) announced that five resolutions have been passed by the 75th Annual General Meeting. These are:

**Environment:** The overwhelmingly-passed AGM resolution called on Governments to implement the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) as agreed through the UN’s International Civil Aviation Organization (ICAO). CORSIA is the first global carbon pricing

instrument for an industry sector. It will cap net CO2 emissions from international aviation at 2020 levels (carbon-neutral growth, or CNG). The AGM looked beyond CORSIA to the next climate action commitment—cutting net emissions to half 2005 levels by 2050. Airlines were urged to implement all available fuel efficiency measures and to participate fully in a long-term switchover to sustainable aviation fuels. These are key to achieving the industry’s 2050 commitment.

**Slots:** The AGM reaffirmed the importance of a harmonized global airport slot system, and called upon governments to urgently address capacity shortages. The resolution also reaffirmed that the Worldwide Slot Guidelines (WSG) is the global standard for the policies, principles, and procedures of airport slot allocation and management. In addition, it endorsed a Statement of Objectives focusing on delivering consumer benefit, proving convenient schedules, ensuring transparency and non-discrimination in the process and using existing capacity to its full potential.

**RFID for Baggage Tracking:** The AGM resolved to support the global deployment of Radio

Frequency Identification (RFID) for baggage tracking. The AGM also called for the implementation of modern baggage messaging standards to more accurately track passengers’ baggage in real time across key points in the journey. The resolution commits airlines to: transition to bar-coded bag tags with RFID inlays and use RFID data alerts to enact processes with airports and ground handlers that prevent potential mishandlings.

**One ID:** The AGM resolved to accelerate the global implementation of the One ID initiative, which uses a single biometric identifier to move passengers through the airport, without the need for paper travel documents. The IATA One ID resolution calls for stakeholders—including airlines, airports and government authorities—to work together to promote and implement a paperless passenger process utilizing biometric recognition.

**Disabled Passengers:** The AGM resolution aims to improve the air travel experience for the estimated one billion people living with disabilities worldwide. Airlines committed to ensuring that passengers with disabilities have access



Source: IATA

**Hyun-Mee Kim**, Minister of Land, Infrastructure and Transport, Republic of Korea.

to safe, reliable and dignified travel, and called upon governments to use IATA's core principles for accommodating passengers with disabilities. These principles aim to change the focus from disability to accessibility and inclusion by bringing the travel sector together with governments to harmonize regulations and provide the clarity and global consistency that passengers expect.

**Hyun-Mee Kim**, *Minister of Land, Infrastructure and Transport of Korea*, stated that more

than 1/3 of global demand is concentrated on the Asia Continent and more particularly in Northeast Asia and a 6% annual growth is expected. This growth calls for infrastructure expansion and fostering of aviation personnel. She urged for joint solutions on security, safety and the protection of consumers.

**Violeta Bulc**, *EU Commissioner for Transport* in her speech concentrated on the European Union aviation strategy which follows two guidelines: put

people at its center and prioritize decarbonisation, digitalisation, innovation and investment" as these are "the key instruments for improvement of connectivity, efficiency and the drive towards zero vision regarding the negative externalities". The aviation strategy that EU launched, although it cannot boast that it has solved European aviation problems, "has delivered as promised on some key components of regulatory framework" and has set new rules that are fit for the future and provide certainty for



both civil and general aviation and remote piloted aircraft and drones. EU aviation policy has shown that Europe can make a difference and fight against climate change by pushing for CORSIA. The global agreement on carbon neutral growth is a historic one. The EU has signed agreements with non EU countries in Asia and Africa and thus reap the benefits in the form of additional direct flights which “strengthen Europe’s connectivity with the world” At the same time fares have come down significantly as for example by 230 euros per trip to the US and the new rules allow European airlines to compete on a level playing field with third world countries

On the issue of capacity, she stated that since EU designed aviation strategy capacity has risen by 20% causing congestion in the skies and delays on the ground. “The need to find solutions for the capacity crunch is now urgent”. the EU looks at ways to make airport charges, slot allocation and broader internal market rules more efficient “for the three Cs: greater capacity, competitiveness and connectivity”. Special attention is given by the EU to traffic management by adopt-

ing targets for the performance of air navigation services so as to address delays, contain cost, while ensuring the highest level of safety. The much-needed additional capacity must be built in a flexible, scalable and sustainable manner while building a more resilient ATM system while simultaneously ensuring safety and security. The EU commission has set up wise persons group to come up with suggestions on ways to deal with capacity crunch and asked stakeholders to participate by making suggestions, “Time of essence as we all know”.

She moved on to the issue of environmental considerations are key “negative externalities of aviation” as they amount to one trillion euros a year that 7% of EU’s GDP. these costs include environmental damage, accidents and infrastructure. The price paid by those travelling cover the infrastructure costs but not the environmental costs and the sector needs to figure how to plan to address them. As aviation emissions are rising rapidly twice as high as they were in the 1990s “we need to turn things around and we need to do it quickly we owe it to ourselves to our planet and

to future generations and the good message is that we can do and we know how to do it”

There has been relative environmental performance improvement in noise but aviation impact on climate, air quality and noise continues to climb as air traffic volumes soar. EU tool kit for addressing emissions includes ATM R& D and innovation and alternative fuel. The “single European sky policy aims to triple capacity, halve ATM costs and reduce environmental impact by 10%”. Aviation emissions are a global problem and thus a global solution in this case negotiated by ICAO can have an impact.

“Digitalisation and big data are revolutionising travel combines with innovation and determination will help us increase capacity and make aviation more sustainable and allowing it to play in the fourth industrial revolution an equal important role as it has played so far”. She called for closer cooperation between regulators and engagement from the whole transport ecosystem as customers “are asking for integrated services multimodal services for simple point-to-point seamless service” and this can be achieved through coop-



WATS - Panel Discussion: **Airline CEO Insight Debate**

eration and collaboration solutions with multilateral structures such as ICAO, IATA to maintain global standards, to ensure maximum safety and provide a greener and prosperous future for people.

## PANEL DISCUSSION: AIRLINE CEO INSIGHT DEBATE

In the panel discussion “**Airline CEO Insight Debate**” moderated by **Richard Quest** of CNN participated **Goh Choon Pong**, *Singapore Air-*

*lines*, **Carsten Spohr** from *Lufthansa Group*, **Christine Oumieres Widener**, *FlyBe*, **Robin Hayes**, *JetBlue*. The first question series centered on the 737 Max issue and how it has made people “question the regulatory framework”. The participants speculated that 737 MAXs will first resume operations domestically in the US and they will fly only there for some time as there will “balcanisation” of regulation. In a global industry as Carsten Spohr and Christine Oumieres stated that “global trust is needed” and it will be very

difficult to convince people that it is safe for a model of aircraft to fly domestically but not internationally or in another place in the world. People will be needed to be reminded that the aviation industry has a remarkable record of safety not only in terms of numbers but also in terms of culture, honesty and transparency when accidents happen, the industry needs “to build and maintain the trust of the public”. The possibility of not reaching a global regulatory licence based on both political and safety grounds was stressed but the regulators



should be working together to arrive to a solution, that is safe for everyone travelling.

Then the panel moved on the subject of the current “highly brutal” competitive environment of aviation and whether and how it has changed. Carsten Spohr said that within the Europe the European landscape is not healthy as there is huge overcapacity and much “irrational” market behaviour. He believes that eventually the healthy airlines will survive and the unhealthy ones will leave the market, which is a form of consolidation. Goh Choon Pong stated that in Southeast Asia there have been structural changes that will stay: rapid growth of the South Seas market and LCCs’ 55% penetration of the market and Singapore through Scoot has been able to exploit that growth. There are airlines adding capacity for various reasons therefore fares can be quite low but overtime there will be a need to pay attention to return. In the US on the other hand, four airlines with 80% market share competing with each other but without a reduction in fares but there has been the positive effect of low-cost carriers coming into the market. Only where LCCs

have access to new markets, slots and infrastructure there is reduction in fares. To restore competition right investment in infrastructure is needed and an air traffic control system that can cope with growth and airports that follow the competition plan filed FAA and DOT.

FlyBe, according to Christine Oumieres Widener has been the victim of competition as with their type of aircraft and business model they served domestic routes and as the situation evolved the market itself moved to a non-compete market on some routes. Flybe hit a “perfect storm” with Brexit and its impact on pound -US parity and consumer demand, fuel cost and competition. For Carsten Spohr the optimum competitive environment would be something between the European and the US environment. By “ticketing below 10 euros” airlines are hurting the trust of the public and of politicians, are congesting the air traffic control systems, are “economically and environmentally irresponsible” and in the long run they are not sustainable. Goh Choon Pong agreed that competition that is not sustainable is going to hurt the industry efficiency but ulti-

mately there will be some balance in demand and supply. Christine Oumieres Widener on the other hand, warned about the risk of massive consolidation without independent challenging carrier that will bring in more diversity. Robin Hayes said that in the US Consolidation necessary for the industry to survive but the situation has led to a procompetitive environment so fares go up very quickly.

On the issue of environment, all participants agreed that airlines have failed to communicate to the public the message that they are doing things for the environment, the industry should come together to come with solutions and “schemes that can deliver measurable tangible outcomes” As Goh Choon Pong suggested “Just better air traffic control management can give very tangible effects on the reduction of fuel consumption”. Carsten Spohr said that airlines are 2,5% CO2 producers but they make the world a smaller and better place offering service not only to the rich but also to a growing part of society and added stated that the industry should not be on the defensive as it is doing much more than other

industries: global systems of CORSIA, European airlines take part in emissions trading system, adopt new technologies to reduce fuel per passenger but “growth is eating up by our numbers”. He believes that apart from China and India this growth will not continue in the future. Airlines will be expected to do more on the environment but he stressed “it is an industry issue, all the burden should be not put on the airlines, there must be better integration within the industry”. To the example of carbon offsetting fee which none knows how paying a carbon fee reduces carbon in the air, Christine Oumieres Widener said the industry should communicate with customers in a language they understand and to give the right message and they must do it together. JetBlue’s CEO said that the industry should rely on offsets alone, they should talk about new technologies—a fully electric engine for short haul flights is possible—, sustainable fuels and he mentioned the example of the car industry and electric cars. They should be convince the public that “we are serious about meeting our commitments”.

When asked whether they have

reached by now after continuous downturns, restructuring, changes, mergers, alliances and agreements a long-term sustainable profitable model, Singapore Airlines and Lufthansa made clear in their answers they have adopted a similar model having both LCCs and full service airlines to cater for all kind of passengers and all segments of the market, regional, short, medium and long-haul markets and to be more efficient in feeding traffic. But they both accepted they operate in still volatile market. JetBlue answered that its sustainable business model is based on three principles: keep cost structure low, offer customer a better service and have a great culture and based on these principles they will venture on the transatlantic market because they see opportunities with the real challenge being filling the planes in winter when the demand is low.

Finally they talked about the use of data in a way so as to offer personalised customer service, what they like to drink, eat or read. Carsten Spohr said that in the end comfort is driven by “the real thing: seats, friendly flight attendants and reliabil-

ity” and they fight the competition game by best product not by low cost and they spend as much on promoting brand and employment because good employees make the brand.

## AIRLINES OF THE FUTURE: DIGITAL TRANSFORMATION JOURNEY

In the panel “**Airlines of the Future: Digital Transformation Journey**” was moderated by **Richard Quest**, CNN, participated **Paolo Gallo**, Author, Adjunct Professor, Executive Coach and Former HR Director, WEF, World Bank and EBRD and **Harry Hohmeister** Chairman of Austrian Airlines. To the remark that “digitalisation» is the most used and least understood buzz word Mr Hohmeister answered as digitalisation covers many levels: the web, mobile apps, lab management personnel, artificial intelligence (AI), auto-robotics bridging technical solutions to get from the main frame to the cloud, it is more than a buzz word that needs to be taken seriously. This wide range requires requalification of the staff and society. Mr Gallo stressed that “Capital and





WATS - Panel Discussion: **Airlines of the Future: Digital Transformation Journey.**

technology make it possible but only people make it happen so you need to start from the people angle to make sure that digitalisation works in organisations”.

They both agreed that there is still 80% of digitalisation potential to be used in aviation. In Mr Hohmeister’s word it is a “combination of revolution and evolution”, that requires to combine what the industry has done and does and bring it in a future world to make life easier for the customer. The complexity globalisation has brought can be managed through digi-

talisation. The core business remains flying and processing customers on the ground-these cannot be generated from a platform; the revolution is on the distribution side and the relationship with the passenger, mainly form data-driven and analytics-driven profiling of the customer.

Paolo Gallo stated that the speed at which things are happening is overwhelming and what happens is changing us in the way we engage with each other. “The next wave of change will not only be about speed and economies of scale

but also about autonomous decisions taken by machines moving into a society whether the border between what is real and what is digital is going to blur”.

When asked about the “amazonification” of distribution channels and tickets sale and the threat posed, Mr Hohmeister stated that things are not black and white. There are certainly customers that only interested in cheap fares but airlines do not sell only flights, they sell recommendation for safety, reliability. Keeping control of the distribution channels

and getting hold of customer data gives airlines more control of their customers and allows them to build customer loyalty by profiling, that is understanding the customer through data mining and data mechanics. The relation with customers has grown deeper with airlines thanks to mobile apps. Digitalisation can help airlines have interaction with the customer through the whole process and act reactively: be there for the customer when irregularities happen and proactively: offer the customer things or services he did not know he needed or wanted.

Speed of digitisation is changing these traditional metrics creating more challenges and new options.

Paolo Gallo stressed that by 2030 70% of the workforce and 60% of the users will be millennials that is digital natives for who digital is as a way of life. These demographics are forcing organisations to go there otherwise they will be out of business and as things are now airlines are not popular career choices for younger generations. Mr Hohmeister said that it is not just a generation issue that on a personal level and on an organisational level

“we have to make ourselves fit for the next generation” as “digitalisation is another way of interaction and working”. He did recognise that airlines need to be more active in positive communication of what they are doing. He added that partnership with “new generation industries” is a good means of learning.

Mr Gallo concluded by saying that “digitalisation is a mind set of an organisation that must permeate from the junior to the senior level”.

## CAPACITY OF THE FUTURE: CONNECTIVITY

**Abderrahmane Berthe**, *Secretary General of African Airlines Association (AFRAA)* was interviewed by **Anita Mendiratta**, *Strategic Advisor CNN* on **“Capacity for the future: connectivity in Africa”**. The initiative of the Single African Air Transport Market (SAATM) is expected to step change the continent as aviation is the primary artery of global growth for travel, trade, tourism. Africa with 1.3 billion people represents only 5% of global tourism and 2,2% of all

airline arrivals. The potential for growth is massive but it has to be economically and socially sustainable.

Mr. Berthe said that the main rationale behind the African Alliance is cooperation between airlines. There was cooperation through interline and code share agreements but the continent needs to move forward and create an African Airlines Alliance. This alliance has now 29 members when the continent has 54 countries.

Mr Berthe stated that the African Union has undertaken three initiatives: the Single African Air Transport Market, the African Continental Free Market Area, the Free Movement Protocol. The last two projects aim at increasing trade between African countries as countries are not trading enough between themselves. The movement of people within the continent faces many restrictions as 51% of African countries require visas before travelling and only 25% grant free visas. This has to be changed. There are some economic regional initiatives such as the west African common passport. The African passport was launched in 2016 but there is a long way to go before it becomes a reality.





WATS - Panel Discussion: **Capacity of the Future: Connectivity.**

The Single African Air Transport Market (SAATM) started with the 1999 Yamoussoukro Decision but its implementation was very slow. Its purpose is liberalise intrafrican air transport services, to lift restrictions on market access, capacity, frequencies and tariffs. As experienced in other parts of the world liberalisation has been an enabler of traffic growth and has permitted the emergence of low-cost carriers. When asked on the ways to measure its success, he answered that there are three measures: increase the African

market share in world wide traffic, increase the cooperation and improve the connectivity index. "Only five (5) countries in Africa have direct connections with more than twenty (20) of the other African countries". These countries correspond to big hubs in Africa namely Casablanca, Johannesburg, Nairobi, Addis Ababa and Cairo. 50% of African travellers are going through another country to get to their final destination. Stakeholders need to work together, to create a conducive environment for air transport growth. But still there is the

challenge of the high cost environment for African airlines, which prevents the emergence of low cost carriers as "you cannot have a low-cost carrier in a high cost environment". In other parts of the world, low cost carriers represent 20% of the traffic, in Africa it is less than 10%. Some consolidation is also needed as it could lead to the creation of hubs and the connectivity would be better. He would like to see more direct flights in Africa.

The African Airlines Association has new strategic objectives: with traffic expected to double

every twenty years to keep the safety level which has greatly improved in the last three years, to enable African airlines to grow their market share in Africa and outside Africa, to have a sustainable air transport system which means to create a conducive environment for the development of African Airlines, to keep and grow the human capital and empower women and youth. Cooperation through joint initiatives can reduce cost and increase revenue. Data intelligence, data research and insight will be a part of the Association's focus. He believes that they are now on the right path representing more than 85% of the traffic in Africa and 50% of African population. A road map for the implementation is needed, an executing agency working on the implementation and the industry and the authorities to come together to talk so as to move forward and make SAATM become a reality.

## CAPACITY OF THE FUTURE: AIRPORT SLOTS & INFRASTRUCTURE

**Jose Ricardo Botelho,**  
*Director President of the*

*National Civil Agency of Brazil (ANAC)* and **Pieter Elbers,** *CEO of KLM* were interviewed by Richard Quest on **“Capacity of the Future: Airport Slots & Infrastructure”**. Mr Elbers stated that slot restriction at Amsterdam Airport Schiphol is an increasingly important issue for his airline because when an airline does not have the slots available to plan new flights or frequencies and when an airline does have the ability to expand the number of slots, they face difficulties in planning routes. “Airlines need predictability to build schedules, have our fleet make operational rotations so that our customers know what to expect”. Mr Elbers said that the basis of the problem is the “lack of timely investments in infrastructure”. Mr Botelho said that slots are part of the process, they are not an end in itself. In the early 2000s they had problems in Brazil, they had 17 airports with slot restrictions and infrastructure as the country went from 30 million people to 100 million in about 10 years. In 2011 Brazil went to the market with a program of concessions and now they have only five congested airports.

IATA unanimously approved a resolution on slot policy, to re-

affirm the procedures of airport slot allocation and management. This system which offers rule transparency and fair playing is place to deal with scarce capacity and guarantee the efficiency of the system and to “give the best available service to our customers”.

They are both against slot trading as the airlines have to give to the customers a product at a price reflective for the product and service offered to them. Slot trading has nothing to do with the service given and scarcity or availability of capacity. “When talking about slot trading we are talking about secondary market but we have not even discussed primary market”. As Mr Elbers put it “airport slots are not products at grocery where you can go at the next grocery shop to buy what you want, it is an asset where governments are deciding how much capacity there is where it is going to be built, what is the next stage. Slot trading seems like a market approach but it is not an efficient one”.

When asked about sustainability Mr Elbers stressed the need for Europe to build technologically advanced trains and different modes of transportation as they do in China for exam-





Source: IATA

WATS - Panel Discussion: **Capacity of the Future: Airport Slots & Infrastructure.**

ple. “The train from from Amsterdam to Berlin takes seven hours which ridiculously slow”. Taking away from the system intraeuropean flights up to an hour and a half would take pressure away take pressure away from the air traffic management in the sky, free slots and help sustainability targets. He also added the need for an efficient air traffic management system as “going by car from Amsterdam to Spain no passports needed while by plane you cross different air spaces with different air traffic management systems times” and

this means delays, fuel waste and emissions. There is an enormous amount of potential savings but for political reasons a more expensive system is used.

Mr Botelho said the public wants the positive elements to travel, want the cheap tickets but they are against new runways and terminals so he called the industry to be better at communicating its case not only on carbon emission and environment but also on the importance of infrastructure.

## CAPACITY OF THE FUTURE: AIR TRAFFIC MANAGEMENT

**E**ammon Brennan, *Director General of Eurocontrol*, was interviewed by **Andrew Stevens** of CNN on “**Capacity of the Future: Air Traffic Management**”. When asked about the reasons behind the delays recorded in Europe in 2018-90.1 million minutes delays, 1 in 3 flights was delayed by an average of 49 minutes- which apart from the inconvenience to the passengers, they also have considerable carbon foot-



WATS - Panel Discussion: **Capacity of the Future: Air Traffic Management.**

print, he said that the “capacity wall” hit by Europe was due to the lack of staffing in some key traffic providers in airports mainly in Germany, to recreational air traffic strikes in France together with the huge increase of traffic over the last five-six years brought the whole thing to a boiling point. This “melt-down” is reflective both of the lack of investment in infrastructure and the fragmentation of the air traffic system in Europe.

He promised that there will significant improvement this summer as Eurocontrol has taken significant action to improve

delays this summer, they are f. ex. moving 1100 flights daily from Central European Space especially over Germany and spreading them over Poland. They have already achieved to manage the flows into Europe and eliminate holding over the airports by linking extensively with the Command Center in the US and the United Arab Emirates and Qatar we have managed to eliminate to a large degree holding over airports by slowing for ex. aircraft over the Atlantic on approach to Europe so they do not circle London. But all these are “tacti-

cal actions” when what is really needed is “strategic action” to integrate the management of the open air space and provide the industry and customer a seamless European Sky.

There are a few moves that can be done to ease the situation but they take political will power. Europe has a single currency, aviation standards are all the same but borders exist in the skies while they do not exist on the ground. “When you leave Madrid to fly to Oslo, you change frequencies 31 times” which not only adds a lot of work load but also because the



network is so overcrowded has disastrous environmental effect. Last year traffic in Europe grew by 3% while our emissions by 5.8% because “we make flights fly longer because they are flying around the bottlenecks, make the flights fly lower, level capping flights and in the case of A flying like that is. The message he wants to pass to political leader is that “If we do not sort out the network in Europe the environmental effect will choke us” and warned that “If we do not solve the network we are going to go down together”.

He emphatically stressed that a joint approach on the management of the air space does not mean that the states give up sovereignty of the air space and their ability decide how it is used. He blamed state governments and the private air traffic providers that they are interested in their vested interests and they do not see the large picture. He called airlines to support his effort as it is them who put significant investment in new systems on their aircraft and unless an integrated air space management system is adopted, the situation will restrict their growth and the choices available.

According to forecasts by 2040

there will be 16,2 million flights, 53% more compared to today and 16 airports will be very congested so capacity is needed. Unless action is taken, Europe will not be able to accommodate this traffic. “The infrastructure as currently structured cannot take that”. Mr Brennan has on several occasions stressed that Europe “needs to address this issue as a matter of urgency as providing more capacity requires long-time planning”. Simple reorganisation can get 25% capacity boom. Europeans pay 10 billion for air traffic control but they do not you get a service of 10 billion of value as there is financial penalty for poor performance.

The European Commission has understood the problem and set up a wise persons group to putting together a new package of a Single European Sky.

Air traffic management in North America is much more efficient because there is one air traffic provider, one administration, one decision-maker while in Europe Eurocontrol has 41 administrations to deal with. Asia and the North America have another advantage over Europe: they came later into the game, they have no legacy system and they can leapfrog in terms of technol-

ogy. But even in Asia with economic growth and 9% increase in traffic per year, with triangles start growing around city-pairs such as Singapore-Bangkok Jakarta-Manila, they will eventually need a flow management system. This is something Asiana needs to grab as well. Technology has an important role to play but the key is the structural change in the way the air space is organised and the way technology is applied as there is no software interoperability and common operation standards in Europe. “The big message is political”.

## SUSTAINABILITY FOR THE FUTURE

“**Sustainability for the Future**” was discussed by **Alan Joyce** of *Qantas* and **Richard Quest**, *CNN*. For Alan Joyce sustainability means impact on the environment, on the community, helping the indigenous communities in Australia as part of our social license to operate, maintaining a good profitability and keeping it in the future to give returns to the shareholders. For him good businesses do not produce only good products or offer good services, good

businesses are those that are sustainable for the future and these are going to survive. Qantas measures sustainability by meeting the targets set by IATA on carbon neutral growth but they have set themselves other targets: They launched the first-ever commercial waste-free flight on the route Sydney-Adelaide and aim to eliminate 100 million pieces of single-use plastic from flights by 2021. In so doing, the airline will reduce its waste by 75 per cent. "In the process of carrying 50 million people each year, we deal with more than 30,000 tonnes of waste. That's the same weight as about eighty 747 jumbos"

When asked whether carbon offsetting is a marketing scam, Mr Joyce answered that the commitment of Qantas' s passengers who all check their carbon offset box and the fact that Qantas partners with other leading businesses to offset their carbon emissions is enough proof of the credibility of the program. He stressed that carbon offsetting is a key tool in aviation's global transition to a low carbon economy and Qantas operates the largest carbon offset scheme in the aviation industry, with a passenger offsetting their flight

every minute and in Australia the public is convinced of Qantas' s commitment. He stated a very interesting example of the impact "you can have if you focus": Qantas introduced 11% lighter cutlery "resulting in an annual saving of up to 535,000 kls in fuel". He stressed that airlines should not think that they "have to compromise on sustainability to give customers what they want".

To the movement "do not fly is the best carbon offset program" he answered that air transport has been proven to be good for the economy, it brings people together and "makes us a more open world".

Part of the problem with people that say "do not fly" is the result of poor communication of airlines' work on the environment. The airlines have the means to advance their argument that they are doing more than any other industry. Most airlines have the advantage of starting from a position of trust: airlines are trusted brands-Qantas is the most trusted brand in Australia. They also have direct contact with millions of people every day to sell products- flat beds or duvet covers- and services, they should try to "sell our message" and "we have

a good message to sell, good targets and a lot of activities".

When asked whether Project Sunrise- an initiative which aims to connect London and Sydney with non-stop flights- is compatible with sustainability, he answered that it is. As an organisation they have to enhance their business, to give the customer products he wants and improve economics for their shareholders and "we can do it in a sustainable way". "We need sustainable fuels, we need to use technology a lot better and focus on every little thing we do". But he also stressed that unless they have a business case, unless aircraft and engine manufactures, pilots and regulators are with them, they will not do it. One of the hardest thing is "to say no when a project does not work".

To the question whether "boom bust cycle is over" for aviation, he stated that not one size fits all, there are good and bad performer. Qantas, and other airlines such as American Airlines, show good stability, good returns and to have managed to move away from the extremities of the cycle and to curb volatility. Qantas has created value for its shareholders for 5 years in a row. The key



he believes is the “right strategy, right focus on delivering to the customers”. He added that airlines seem to be more disciplined now and that there is not any more “irresponsible” but only “realistic level of competition”. When they were facing competition, they followed the motto “if you cannot beat them, join them” and created JetStar who is doing well. JetStar success proves that “if you get the cost basis and efficiency right” you can sell very low fares and these are “fares that can actually make money”.

## THE PASSENGER JOURNEY OF THE FUTURE: TRAVEL FACILITATION

**Paul Griffiths** of *Dubai Airports* and **Gloria Guevara** of *The World Travel & Tourism Council (WTTC)* moderated by **Andrew Stevens** discussed the issue of “**The Passenger Journey into the Future: Travel Facilitation-Optimizing the customer experience using digital identity**”. One DI introduces an opportunity for the passenger to further streamline their journey with a document-free process based on biometrics. As Mr Griffiths

said it about consolidation of media on one platform same information across the whole airport, end-to-end process, once implemented it is expected to be a “game changer”.

Mr Griffiths said that the Dubai has been running trials of DI documents travel on the Dubai-Gatwick route with tremendous success. It has been proven that the use of a single identity at different locations works and they want to apply it on a global level. Although there were reservations that people might react to the legal aspects of sharing data, the trial showed that 82% of the passengers in the trial had no issue with sharing with a third party since there were clear consumer benefits: travel easier. The biggest adopters were the under 25 millennials and the frequent premium travellers who dislike the disruption of having to carry too much documentation around. Mrs Guevara concurred by referring to a study in 5 European countries where 86% of 10,000 participants answered that they had no problem to provide facial recognition as long as they have the benefits of better processing and better travel experience.

When asked whether facial recognition, already selected by

the US government, is the accepted form that will define DI, Mr Griffiths answered that the industry should not focus on which technology will be used as there will be maturity of the best and most reliable technology but first on what they are trying to achieve and find a system that “a positive match between the person who is presented before you and there are represented to be”. When you do to date concerning populations 1% of error is far too high

Mrs Guevara stressed that one DI can increase security, reduce cost and increase travelling facilitation as with your face, in the case of facial recognition or another token of DI, “you can board the plane, go through immigration, rent a car, check-in hotel, board cruisers”. She said added although the technology is already available and there are several initiatives undertaken both by private companies and by governments, there is “lack of alignment within the industry” and complained about the “silo effect” with each one concentrating on their own technology and the unwillingness of some airlines and airports to help WTTC carry an end-to-end pilot



WATS - Panel Discussion: **The Passenger Journey of the Future: Travel facilitation - Optimizing the customer experience using digital identity.**

round trip and document the benefits.

She stressed that the industry needs to align itself define itself and not wait for the governments to impose, the standards that can make the different systems and technologies interoperable. He called the airlines and the airports to help WTTTC make this a priority and to assign some resources so that the end-to-end pilot program is implemented

Mr Griffiths compared the movement towards one DI to the movement towards ticketless travel: the industry needs to realise once again the benefits of ubiquity and adopt a system-wide solution.

Mr Griffiths stressed that while

aviation in the air is at the forefront of technology, on the ground the rate of technological adoption is so slow that it is decades behind which makes the ground “the weakest link in aviation”. He also stressed that with airport capacity being the single limiting factor of the continuing success and growth of aviation the industry has to “make the disconnected ground processes more efficient and use airport capacity more effectively”. “A single documentation transaction can halve the time of every capacity and double capacity” without having to build or expand terminals and runways. Unless we work together on this issue “we are heading for a perfect storm”.

Mrs Guevara said that many governments have by now understood that the adoption of biometrics can create 75.000 jobs and increase security and it is for the industry to make it a priority, establish the foundation and assign resources as this is a huge opportunity for the entire industry of aviation, travel and tourism. Mr Griffiths stressed that one DT is actually “travel without borders” and called IATA to champion the initiative. He called the industry to get a standard with governments and then work together on the technological solution to promote the concept of the better use of infrastructure and the freedom for the public to travel more extensively and seamlessly.





EVENTS 



## ICAO Air Transport Symposium & Conference on International Air Transport Cooperation 2019

**“Together We Challenge, Together We Fly”**

8-10 May, 2019 | Incheon, Republic of Korea

Co-hosted by  ICAO  Ministry of Land, Infrastructure and Transport

# Fourth ICAO Air Transport Symposium (IATS/4)

Incheon, Republic of Korea, 8-10 May 2019

Source: [iats-ciat2019.com](http://iats-ciat2019.com)







## Fourth ICAO Air Transport Symposium (IATS/4) Incheon, Republic of Korea, 8-10 May 2019

# IATS2019



# ICAO



**MOLIT**  
Ministry of Land,  
Infrastructure and Transport

### OUTCOME OF THE FOURTH ICAO AIR TRANSPORT SYMPOSIUM (IATS/4)

The Fourth ICAO Air Transport Symposium (IATS/4) held in Incheon, Republic of Korea, from 8 to 10 May 2019 brought together aviation stakeholders, including regulators, airlines, airport operators, academia, and other stakeholders, to discuss ways of enhancing air connectivity and the benefits of a coherent global regulatory regime through the liberalization of international air transport.

After three (3) days of informative and interactive presentations and discussions on different aspects of liberalization, including the journey so far on approaches taken by States and regions on liberalization, the safeguards and reassurances for the liberalization of market access on a multilateral basis, regional and global liberalization of air cargo services, cross-border investments in airlines, the issue of achieving harmonized global regulatory framework and the assessment of levies on air transport sustainability, among others, the meeting:

- 1) *Acknowledged* the work and progress being made by States to modernize the regulatory environment through increasing the number of liberalized bilateral and multilateral air services agreements and the need to accelerate the efforts being made by ICAO to develop a multilateral agreement on the liberalization of market access in order to improve and optimize global air connectivity as well as provide a more conducive operating environment for air carriers.
- 2) *Recognized* the need for more concerted efforts to be made in promoting liberalization among States in order to reap its full socio-economic benefits.
- 3) *Encouraged* States to continue to modernize their regulatory approaches by embracing liberalization in line with the *ICAO Long-Term Vision for International Air Transport Liberalization*.
- 4) *Underscored* the importance of States to continue to share their experiences and best practices on liberalization so as to encourage and assist other States that are yet to fully embrace liberalization in their regulatory approaches.

## Fourth ICAO Air Transport Symposium (IATS/4) Incheon, Republic of Korea, 8-10 May 2019

# IATS2019

- 5) *Requested* ICAO to work with States and other stakeholders to facilitate the pursuit of the development of a multilateral agreement on the liberalization of market access, to allow the industry to do business in a more favourable operating environment and expand into new markets, enhance connectivity for States and regions, as well as provide more choices to the travelling public.
- 6) *Agreed* that some "safeguards or reassurances" are required in multilateral agreement on the liberalization of market access, to assure signatory States of fair and equal opportunities for all air carriers as well as to ensure the effective and sustained participation of all States in the international air transport system. These safeguards should however not be protectionist in nature.
- 7) *Recognized* the vital role that air cargo plays in ensuring the competitiveness and commercial success of a large number of industries across the globe, and the need for regulatory arrangements different from those applying to international air passenger services to enable air cargo to respond more efficiently to market developments and demands.
- 8) *Emphasized* the need to continue to encourage cross-border investments in view of the inherent benefits to States and the industry; and therefore urged ICAO to continue the development of a draft Convention on Foreign Investment in Airlines.
- 9) *Encouraged* States to continue to work towards achieving regional harmonization in the areas of consumer protection and competition regulations and policies as regional harmonization is often more feasible than establishing globally harmonized regulatory regimes in these areas.
- 10) *Reaffirmed* the importance of preventing the proliferation of taxes on international air transport and tourism; and the need for States to abide with ICAO policies on taxes and charges as contained in *Doc 8632 - ICAO's Policies on Taxation in the Field of International Air Transport* and *Doc 9082 - ICAO's Policies on Charges for Airports and Air Navigation Services*.
- 11) *Urged* ICAO to continue to promote, including through symposium, workshops and seminars, the use of its policies and guidance material by States in their regulatory practices.
- 12) *Thanked* the people and the Government of the Republic of Korea for hosting the Fourth ICAO Air Transport Symposium (IATS/4) as well as the moderators and speakers for their insightful presentations and discussions.

# CANSO Global ATM Summit and 23rd AGM Champions Partnership and Success in ATM

Geneva, 20 June 2019

Geneva, 20 June 2019 – The CANSO Global ATM Summit and 23rd AGM brought together the leaders of airlines, airports and air traffic management (ATM) to work towards enhancing the safety, efficiency and harmonisation of airspace and recognise the significant achievements already made.

During the industry leaders' discussion, **Alexandre de Juniac**, *Director General of IATA*, paid tribute to air navigation service providers (ANSPs) who keep the skies safe. As well as safety, he said that the airlines' expectations of CANSO Members were: efficient, reliable and cost-effective air traffic management; sufficient capacity in the face of rapidly growing air traffic; and greater transparency, consultation and collaboration between ANSPs as well as between ANSPs and

stakeholders such as airlines and airports.

In addition, **Angela Gittens**, *Director General of ACI*, emphasised that the reliable and effective transmission of data is crucial to improving operational efficiency, particularly collaborative decision making (CDM) between airports, airlines and ANSPs. A major concern for airports was the impact of aviation noise on local communities and she was pleased that CANSO and ACI were currently working on a joint publication on managing noise.

During the event, CANSO signed a memorandum of understanding with IATA on enhancing airspace capacity, integrating new airspace users such as drones, implementing air traffic flow management, and other areas of collaboration.

CANSO Members also agreed a resolution to: modernise ATM, increase capacity and improve operational efficiency; push regulators for more effective performance-based regulation to speed up implementation of new technologies; advocate for an integrated approach to airspace management; enhance global interoperability by pursuing the adoption of open source system standards; and ensure a deeper understanding of the proactive actions that the ATM industry is taking to meet today's complex challenges and to prepare for the challenges of tomorrow.

In addition, Members approved the creation of a new, separate intermediate Membership category for Specialised Service Providers. These are defined as: any organisation that provides services in-





tended to avoid collisions between airborne capable vehicles (manned and unmanned), and to maintain an orderly flow of air traffic.

For the inaugural CANSO Award of Excellence in ATM, six companies shortlisted presented their projects, and CANSO Members voted for the winner. The Award was given to Aireon, NATS and NAV CANADA for their joint project to deploy space-based ADS-B in the North Atlantic.

During the AGM, **Simon Hocquard** was appointed as *Director General of CANSO*.

**Alex Bristol**, *CEO of skyguide*, was elected, and **Captain Gilbert Macharia Kibe**, *Director General Kenya Civil Aviation Authority*, was re-elected to the CANSO Executive Committee as Members at large. Conor Mullan, Managing Director, Think Research Ltd. was co-opted as a representative of Associate Members. The new Executive Committee elected **Rudy Kellar**, *Executive Vice President, NAV CANADA*, as CANSO Chair and elected **Kevin Shum**, *Director-General, Civil Aviation Authority of Singapore (CAAS)* as Vice Chair.

The CANSO Global ATM Summit and 23rd Annual General Meeting, hosted in Geneva by skyguide, with Aireon as Lead Sponsor, was attended by a record 275 delegates from around the world. The CANSO Global ATM Summit 2020 and 24th AGM will take place in Baku, Azerbaijan, 8-10 June 2020, hosted by Azerbaijan Air Navigation Services Department (AZANS). Members voted to hold the 2021 Summit and 25th AGM in Berlin, hosted by DFS.



## MARCH 2019: Air Passenger Market Analysis

Chart 1 – Air passenger volumes

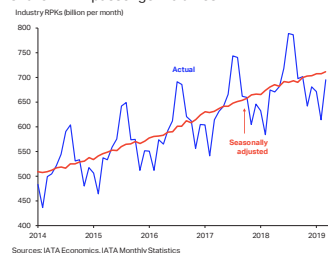
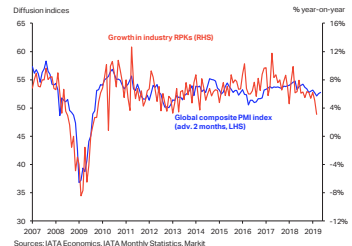


Chart 2 – RPK growth and global business confidence



At the country level, business confidence remains generally more supportive for emerging markets than

Air passenger market overview - March 2019

|                     | World share <sup>1</sup> | March 2019 (% year-on-year) |             |                         |                          | % year-to-date |             |                         |                          |
|---------------------|--------------------------|-----------------------------|-------------|-------------------------|--------------------------|----------------|-------------|-------------------------|--------------------------|
|                     |                          | RPK                         | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> | RPK            | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> |
| <b>TOTAL MARKET</b> | <b>100.0%</b>            | <b>3.1%</b>                 | <b>4.2%</b> | <b>-0.9%</b>            | <b>81.7%</b>             | <b>4.8%</b>    | <b>5.2%</b> | <b>-0.4%</b>            | <b>80.6%</b>             |
| International       | 64.0%                    | 2.5%                        | 4.0%        | -1.2%                   | 80.8%                    | 4.3%           | 5.0%        | -0.5%                   | 80.0%                    |
| Domestic            | 36.0%                    | 4.1%                        | 4.5%        | -0.3%                   | 83.4%                    | 5.6%           | 5.7%        | 0.0%                    | 81.7%                    |

<sup>1</sup>% of industry RPKs in 2018

<sup>2</sup>Year-on-year change in load factor

<sup>3</sup>Load factor level

Chart 3 – Economic conditions (monthly data from composite PMIs, selected regions and countries)

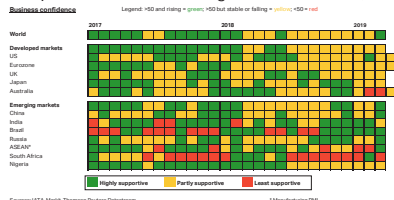


Chart 4 – Passenger load factors by region

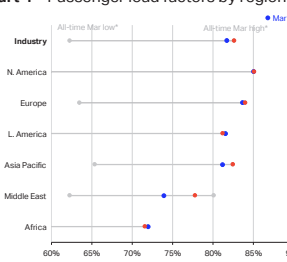


Chart 5 – International passenger traffic growth by airline region of registration

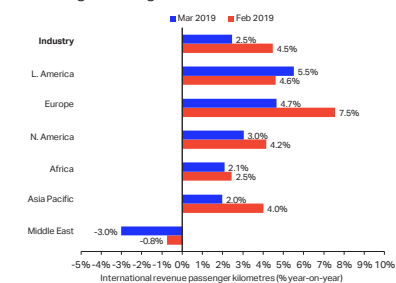
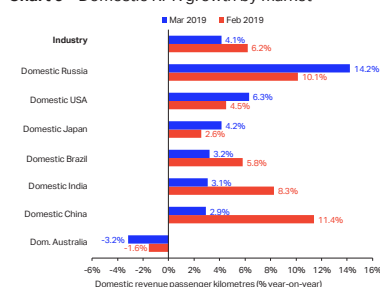


Chart 6 – Domestic RPK growth by market



Air passenger market detail - March 2019

|                                | World share <sup>1</sup> | March 2019 (% year-on-year) |             |                         |                          | % year-to-date |             |                         |                          |
|--------------------------------|--------------------------|-----------------------------|-------------|-------------------------|--------------------------|----------------|-------------|-------------------------|--------------------------|
|                                |                          | RPK                         | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> | RPK            | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> |
| <b>TOTAL MARKET</b>            | <b>100.0%</b>            | <b>3.1%</b>                 | <b>4.2%</b> | <b>-0.9%</b>            | <b>81.7%</b>             | <b>4.8%</b>    | <b>5.2%</b> | <b>-0.4%</b>            | <b>80.6%</b>             |
| Africa                         | 2.1%                     | 2.6%                        | 2.0%        | 0.4%                    | 72.0%                    | 3.0%           | 1.7%        | 0.9%                    | 71.4%                    |
| Asia Pacific                   | 34.4%                    | 1.9%                        | 3.5%        | -1.3%                   | 81.2%                    | 5.4%           | 5.4%        | 0.0%                    | 80.1%                    |
| Europe                         | 26.7%                    | 4.9%                        | 5.4%        | -0.4%                   | 83.7%                    | 6.4%           | 7.1%        | -0.5%                   | 84.2%                    |
| Latin America                  | 5.1%                     | 5.6%                        | 5.1%        | 0.3%                    | 81.5%                    | 5.3%           | 5.7%        | -0.3%                   | 81.9%                    |
| Middle East                    | 9.2%                     | -3.0%                       | 2.1%        | -3.9%                   | 73.9%                    | -1.3%          | 2.6%        | -2.9%                   | 73.8%                    |
| North America                  | 22.5%                    | 4.9%                        | 5.0%        | -0.1%                   | 85.0%                    | 4.7%           | 4.4%        | 0.2%                    | 83.7%                    |
| <b>International</b>           | <b>64.0%</b>             | <b>2.5%</b>                 | <b>4.0%</b> | <b>-1.2%</b>            | <b>80.8%</b>             | <b>4.3%</b>    | <b>5.0%</b> | <b>-0.5%</b>            | <b>80.0%</b>             |
| Africa                         | 1.8%                     | 2.1%                        | 1.1%        | 0.7%                    | 71.4%                    | 3.2%           | 1.5%        | 1.2%                    | 71.4%                    |
| Asia Pacific                   | 18.9%                    | 2.0%                        | 4.0%        | -1.6%                   | 80.1%                    | 4.4%           | 4.6%        | -0.1%                   | 80.1%                    |
| Europe                         | 23.9%                    | 4.7%                        | 5.4%        | -0.6%                   | 84.2%                    | 6.5%           | 7.2%        | -0.6%                   | 84.2%                    |
| Latin America                  | 2.7%                     | 5.5%                        | 5.8%        | -0.2%                   | 81.9%                    | 5.2%           | 6.2%        | -0.8%                   | 81.9%                    |
| Middle East                    | 8.9%                     | -3.0%                       | 2.3%        | -4.0%                   | 73.8%                    | -1.1%          | 2.8%        | -2.9%                   | 73.8%                    |
| North America                  | 7.6%                     | 3.0%                        | 2.6%        | 0.3%                    | 83.7%                    | 4.1%           | 3.2%        | 0.7%                    | 83.7%                    |
| <b>Domestic</b>                | <b>36.0%</b>             | <b>4.1%</b>                 | <b>4.5%</b> | <b>-0.3%</b>            | <b>83.4%</b>             | <b>5.6%</b>    | <b>5.7%</b> | <b>0.0%</b>             | <b>81.7%</b>             |
| Dom. Australia <sup>4</sup>    | 0.9%                     | -3.2%                       | -2.1%       | -0.9%                   | 79.3%                    | -1.7%          | -1.3%       | -0.3%                   | 79.3%                    |
| Domestic Brazil <sup>4</sup>   | 1.1%                     | 3.2%                        | 2.1%        | 0.9%                    | 80.9%                    | 3.7%           | 2.9%        | 0.7%                    | 80.9%                    |
| Dom. China P.R. <sup>4</sup>   | 9.5%                     | 2.9%                        | 4.4%        | -1.2%                   | 84.2%                    | 9.4%           | 9.3%        | 0.1%                    | 84.2%                    |
| Domestic India <sup>4</sup>    | 1.6%                     | 3.1%                        | 4.7%        | -1.4%                   | 86.6%                    | 7.8%           | 10.4%       | -2.1%                   | 86.6%                    |
| Domestic Japan <sup>4</sup>    | 1.0%                     | 4.2%                        | 3.6%        | 0.4%                    | 74.5%                    | 3.4%           | 2.9%        | 0.3%                    | 74.5%                    |
| Dom. Russian Fed. <sup>4</sup> | 1.4%                     | 14.2%                       | 11.1%       | 2.2%                    | 80.5%                    | 11.7%          | 11.1%       | 0.4%                    | 80.5%                    |
| Domestic US <sup>4</sup>       | 14.1%                    | 6.3%                        | 6.9%        | -0.5%                   | 85.8%                    | 5.3%           | 5.4%        | -0.1%                   | 85.8%                    |

<sup>1</sup>% of industry RPKs in 2018

<sup>2</sup>Year-on-year change in load factor

<sup>3</sup>Load factor level

<sup>4</sup>Note: the seven domestic passenger markets for which broken-down data are available account for 30% of global total RPKs and approximately 82% of total domestic RPKs

Note: the total industry and regional growth rates are based on a constant sample of airlines combining reported data and estimates for missing observations. Airline traffic is allocated according to the region in which the carrier is registered; it should not be considered as regional traffic.



# APRIL 2019: Air Passenger Market Analysis

Chart 1 – Air passenger volumes

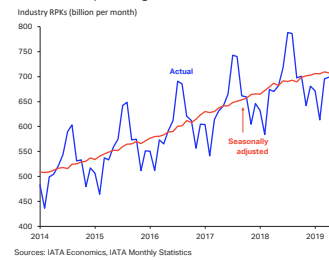
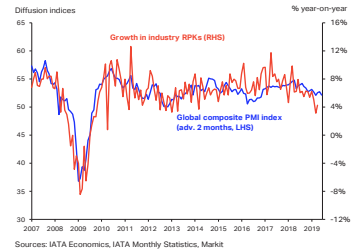


Chart 2 – RPK growth and global business confidence



Air passenger market overview - April 2019

|                     | World share <sup>1</sup> | April 2019 (% year-on-year) |             |                         |                          | % year-to-date |             |                         |                          |
|---------------------|--------------------------|-----------------------------|-------------|-------------------------|--------------------------|----------------|-------------|-------------------------|--------------------------|
|                     |                          | RPK                         | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> | RPK            | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> |
| <b>TOTAL MARKET</b> | <b>100.0%</b>            | <b>4.3%</b>                 | <b>3.6%</b> | <b>0.6%</b>             | <b>82.8%</b>             | <b>4.6%</b>    | <b>4.8%</b> | <b>-0.1%</b>            | <b>81.2%</b>             |
| International       | 64.0%                    | 5.1%                        | 3.8%        | 1.1%                    | 82.5%                    | 4.5%           | 4.7%        | -0.1%                   | 80.7%                    |
| Domestic            | 36.0%                    | 2.8%                        | 3.2%        | -0.3%                   | 83.2%                    | 4.8%           | 4.9%        | -0.1%                   | 82.1%                    |

<sup>1</sup>% of industry RPKs in 2018

<sup>2</sup>Year-on-year change in load factor

<sup>3</sup>Load factor level

Chart 3 – Economic conditions (monthly data from composite PMIs, selected regions and countries)

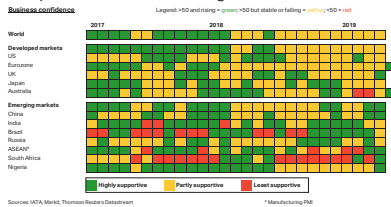


Chart 4 – Passenger load factors by region

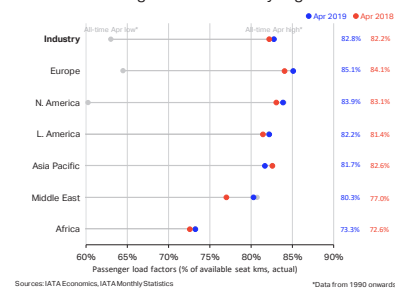
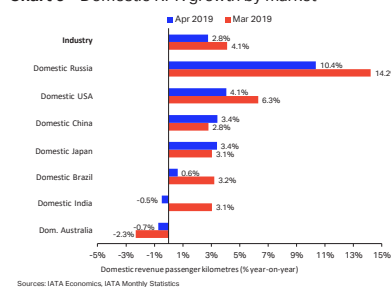


Chart 5 – International passenger traffic growth by airline region of registration



Chart 6 – Domestic RPK growth by market



Air passenger market detail - April 2019

|                                | World share <sup>1</sup> | April 2019 (% year-on-year) |             |                         |                          | % year-to-date |             |                         |                          |
|--------------------------------|--------------------------|-----------------------------|-------------|-------------------------|--------------------------|----------------|-------------|-------------------------|--------------------------|
|                                |                          | RPK                         | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> | RPK            | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> |
| <b>TOTAL MARKET</b>            | <b>100.0%</b>            | <b>4.3%</b>                 | <b>3.6%</b> | <b>0.6%</b>             | <b>82.8%</b>             | <b>4.6%</b>    | <b>4.8%</b> | <b>-0.1%</b>            | <b>81.2%</b>             |
| Africa                         | 2.1%                     | 1.6%                        | 0.6%        | 0.7%                    | 73.3%                    | 2.6%           | 1.4%        | 0.8%                    | 71.6%                    |
| Asia Pacific                   | 34.4%                    | 2.1%                        | 3.2%        | -0.9%                   | 81.7%                    | 4.6%           | 4.8%        | -0.2%                   | 81.7%                    |
| Europe                         | 26.7%                    | 7.6%                        | 6.3%        | 1.0%                    | 85.1%                    | 6.9%           | 6.9%        | 0.0%                    | 82.7%                    |
| Latin America                  | 5.7%                     | 5.7%                        | 4.7%        | 0.8%                    | 82.2%                    | 5.4%           | 5.3%        | 0.1%                    | 81.9%                    |
| Middle East                    | 9.2%                     | 2.6%                        | -1.6%       | 3.3%                    | 80.3%                    | -0.3%          | 1.5%        | -1.4%                   | 75.4%                    |
| North America                  | 22.5%                    | 4.4%                        | 3.4%        | 0.8%                    | 83.9%                    | 4.5%           | 4.1%        | 0.3%                    | 82.3%                    |
| <b>International</b>           | <b>64.0%</b>             | <b>5.1%</b>                 | <b>3.8%</b> | <b>1.1%</b>             | <b>82.5%</b>             | <b>4.5%</b>    | <b>4.7%</b> | <b>-0.1%</b>            | <b>80.7%</b>             |
| Africa                         | 1.6%                     | 1.1%                        | 0.1%        | 0.7%                    | 72.6%                    | 2.5%           | 1.1%        | 1.0%                    | 71.2%                    |
| Asia Pacific                   | 18.9%                    | 2.9%                        | 3.7%        | -0.6%                   | 80.8%                    | 4.1%           | 4.3%        | -0.2%                   | 81.0%                    |
| Europe                         | 23.9%                    | 8.0%                        | 6.6%        | 1.1%                    | 85.7%                    | 7.0%           | 7.1%        | 0.0%                    | 83.3%                    |
| Latin America                  | 2.7%                     | 5.2%                        | 4.0%        | 0.9%                    | 82.8%                    | 5.0%           | 5.3%        | -0.2%                   | 82.3%                    |
| Middle East                    | 8.9%                     | 2.9%                        | -1.6%       | 3.5%                    | 80.5%                    | -0.1%          | 1.7%        | -1.3%                   | 75.4%                    |
| North America                  | 7.6%                     | 5.5%                        | 3.2%        | 1.8%                    | 82.2%                    | 4.6%           | 3.5%        | 0.8%                    | 81.3%                    |
| <b>Domestic</b>                | <b>36.0%</b>             | <b>2.8%</b>                 | <b>3.2%</b> | <b>-0.3%</b>            | <b>83.2%</b>             | <b>4.8%</b>    | <b>4.9%</b> | <b>-0.1%</b>            | <b>82.1%</b>             |
| Dom. Australia <sup>4</sup>    | 0.9%                     | -0.7%                       | 0.4%        | -0.9%                   | 79.5%                    | -1.0%          | -0.7%       | -0.2%                   | 79.0%                    |
| Domestic Brazil <sup>4</sup>   | 1.1%                     | 0.6%                        | -1.1%       | 1.4%                    | 81.9%                    | 3.0%           | 1.9%        | 0.9%                    | 82.4%                    |
| Dom. China P.R. <sup>4</sup>   | 9.5%                     | 3.4%                        | 5.4%        | -1.6%                   | 84.3%                    | 7.8%           | 8.2%        | -0.3%                   | 84.1%                    |
| Domestic India <sup>4</sup>    | 1.6%                     | -0.5%                       | 0.5%        | -0.9%                   | 88.6%                    | 5.7%           | 7.9%        | -1.8%                   | 87.5%                    |
| Domestic Japan <sup>4</sup>    | 1.0%                     | 3.4%                        | 2.6%        | 0.5%                    | 67.3%                    | 3.1%           | 2.5%        | 0.4%                    | 69.7%                    |
| Dom. Russian Fed. <sup>4</sup> | 1.4%                     | 10.4%                       | 10.4%       | 0.0%                    | 81.0%                    | 11.3%          | 10.9%       | 0.3%                    | 78.6%                    |
| Domestic US <sup>4</sup>       | 14.1%                    | 4.1%                        | 3.8%        | 0.2%                    | 84.7%                    | 4.7%           | 4.8%        | -0.1%                   | 82.9%                    |

<sup>1</sup>% of industry RPKs in 2018

<sup>2</sup>Year-on-year change in load factor

<sup>3</sup>Load factor level

<sup>4</sup>Note: the seven domestic passenger markets for which broken-down data are available account for 30% of global total RPKs and approximately 82% of total domestic RPKs

Note: The total industry and regional growth rates are based on a constant sample of airlines combining reported data and estimates for missing observations. Airline traffic is allocated according to the region in which the carrier is registered; it should not be considered as regional traffic.





# MAY 2019: Air Passenger Market Analysis

Chart 1 – Air passenger volumes

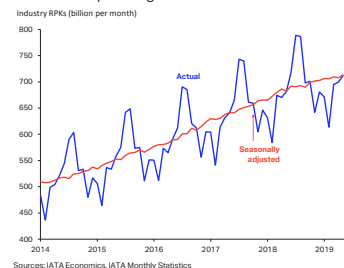
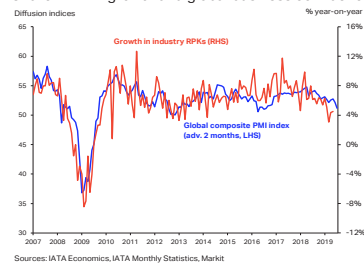


Chart 2 – RPK growth and global business confidence



## Air passenger market overview - May 2019

|                     | World share <sup>1</sup> | May 2019 (% year-on-year) |             |                         |                          | % year-to-date |             |                         |                          |
|---------------------|--------------------------|---------------------------|-------------|-------------------------|--------------------------|----------------|-------------|-------------------------|--------------------------|
|                     |                          | RPK                       | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> | RPK            | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> |
| <b>TOTAL MARKET</b> | <b>100.0%</b>            | <b>4.5%</b>               | <b>2.7%</b> | <b>1.4%</b>             | <b>81.5%</b>             | <b>4.6%</b>    | <b>4.3%</b> | <b>0.3%</b>             | <b>81.3%</b>             |
| International       | 64.0%                    | 4.3%                      | 2.1%        | 1.7%                    | 80.4%                    | 4.5%           | 4.1%        | 0.3%                    | 80.7%                    |
| Domestic            | 36.0%                    | 4.8%                      | 3.8%        | 0.8%                    | 83.4%                    | 4.9%           | 4.7%        | 0.2%                    | 82.4%                    |

<sup>1</sup>% of industry RPKs in 2018

<sup>2</sup>Year-on-year change in load factor

<sup>3</sup>Load factor level

Chart 3 – Economic conditions (monthly data from composite PMIs, selected regions and countries)

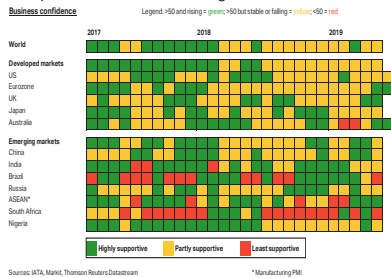


Chart 4 – Passenger load factors by region

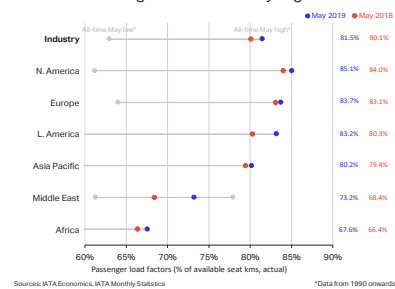


Chart 5 – International passenger traffic growth by airline region of registration

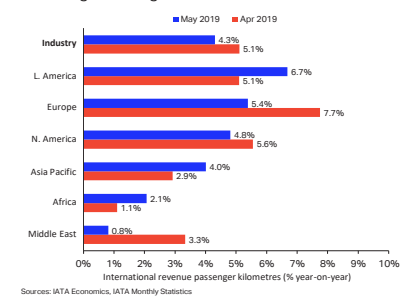
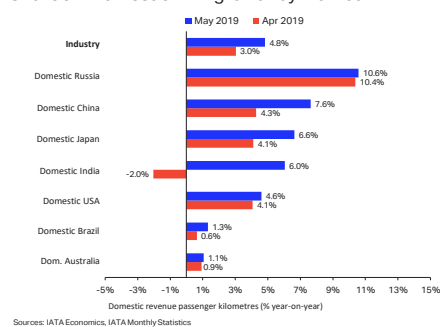


Chart 6 – Domestic RPK growth by market



## Air passenger market detail - May 2019

|                                | World share <sup>1</sup> | May 2019 (% year-on-year) |             |                         |                          | % year-to-date |             |                         |                          |
|--------------------------------|--------------------------|---------------------------|-------------|-------------------------|--------------------------|----------------|-------------|-------------------------|--------------------------|
|                                |                          | RPK                       | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> | RPK            | ASK         | PLF (%-pt) <sup>2</sup> | PLF (level) <sup>3</sup> |
| <b>TOTAL MARKET</b>            | <b>100.0%</b>            | <b>4.5%</b>               | <b>2.7%</b> | <b>1.4%</b>             | <b>81.5%</b>             | <b>4.6%</b>    | <b>4.3%</b> | <b>0.3%</b>             | <b>81.3%</b>             |
| Africa                         | 2.1%                     | 2.2%                      | 0.3%        | 1.2%                    | 67.6%                    | 2.4%           | 1.2%        | 0.9%                    | 70.8%                    |
| Asia Pacific                   | 34.4%                    | 4.5%                      | 3.0%        | 0.8%                    | 80.2%                    | 4.7%           | 4.7%        | 0.0%                    | 81.4%                    |
| Europe                         | 26.7%                    | 5.4%                      | 4.6%        | 0.6%                    | 83.7%                    | 6.4%           | 6.3%        | 0.1%                    | 82.9%                    |
| Latin America                  | 5.1%                     | 6.5%                      | 2.6%        | 2.9%                    | 83.2%                    | 5.6%           | 4.8%        | 0.6%                    | 82.2%                    |
| Middle East                    | 9.2%                     | 0.7%                      | -5.9%       | 4.8%                    | 73.2%                    | 0.0%           | 0.0%        | -0.1%                   | 75.1%                    |
| North America                  | 22.5%                    | 4.5%                      | 3.2%        | 1.1%                    | 85.1%                    | 4.4%           | 3.6%        | 0.6%                    | 83.1%                    |
| <b>International</b>           | <b>64.0%</b>             | <b>4.3%</b>               | <b>2.1%</b> | <b>1.7%</b>             | <b>80.4%</b>             | <b>4.5%</b>    | <b>4.1%</b> | <b>0.3%</b>             | <b>80.7%</b>             |
| Africa                         | 1.6%                     | 2.1%                      | 0.1%        | 1.3%                    | 67.0%                    | 2.4%           | 0.8%        | 0.1%                    | 70.3%                    |
| Asia Pacific                   | 18.9%                    | 4.0%                      | 3.0%        | 0.8%                    | 78.6%                    | 4.1%           | 4.0%        | 0.1%                    | 80.5%                    |
| Europe                         | 23.9%                    | 5.4%                      | 4.6%        | 0.7%                    | 84.2%                    | 6.5%           | 6.4%        | 0.1%                    | 83.5%                    |
| Latin America                  | 2.7%                     | 6.7%                      | 4.0%        | 2.1%                    | 84.0%                    | 5.3%           | 5.1%        | 0.2%                    | 82.6%                    |
| Middle East                    | 8.9%                     | 0.8%                      | -6.1%       | 5.0%                    | 73.0%                    | 0.2%           | 0.1%        | 0.0%                    | 75.0%                    |
| North America                  | 7.6%                     | 4.6%                      | 2.7%        | 1.7%                    | 83.6%                    | 4.7%           | 3.2%        | 1.1%                    | 81.9%                    |
| <b>Domestic</b>                | <b>36.0%</b>             | <b>4.8%</b>               | <b>3.8%</b> | <b>0.8%</b>             | <b>83.4%</b>             | <b>4.9%</b>    | <b>4.7%</b> | <b>0.2%</b>             | <b>82.4%</b>             |
| Dom. Australia <sup>4</sup>    | 0.9%                     | 1.1%                      | 0.6%        | 0.2%                    | 77.0%                    | -0.2%          | -0.3%       | 0.1%                    | 78.9%                    |
| Domestic Brazil <sup>4</sup>   | 1.1%                     | 1.3%                      | -4.4%       | 4.6%                    | 81.4%                    | 2.7%           | 0.7%        | 1.6%                    | 82.2%                    |
| Dom. China P.R. <sup>4</sup>   | 9.5%                     | 7.6%                      | 7.1%        | 0.4%                    | 83.2%                    | 8.2%           | 8.4%        | -0.2%                   | 83.9%                    |
| Domestic India <sup>4</sup>    | 1.6%                     | 6.0%                      | 3.3%        | 2.3%                    | 90.1%                    | 5.5%           | 6.9%        | -1.2%                   | 87.8%                    |
| Domestic Japan <sup>4</sup>    | 1.0%                     | 6.6%                      | 2.0%        | 3.1%                    | 71.6%                    | 4.0%           | 2.4%        | 1.0%                    | 70.2%                    |
| Dom. Russian Fed. <sup>4</sup> | 1.4%                     | 10.6%                     | 9.6%        | 0.7%                    | 80.1%                    | 11.2%          | 10.6%       | 0.4%                    | 78.9%                    |
| Domestic US <sup>4</sup>       | 14.1%                    | 4.6%                      | 3.9%        | 0.6%                    | 86.0%                    | 4.5%           | 4.2%        | 0.2%                    | 83.7%                    |

<sup>1</sup>% of industry RPKs in 2018

<sup>2</sup>Year-on-year change in load factor

<sup>3</sup>Load factor level

<sup>4</sup> Note: the seven domestic passenger markets for which broken-down data are available account for 30% of global total RPKs and approximately 82% of total domestic RPKs

Note: The total industry and regional growth rates are based on a constant sample of airlines combining reported data and estimates for missing observations. Airline traffic is allocated according to the region in which the carrier is registered; it should not be considered as regional traffic.

## FEBRUARY 2019: Worldwide Traffic Results

Passenger traffic / Freight volumes  
(Summary)

| TABLE 1: SUMMARY WORLDWIDE TRAFFIC RESULTS, FEBRUARY 2019 (% CHANGE) |  |                      |                          |
|--|--|----------------------|--------------------------|
|  | February 2019<br>over February<br>2018 | Year to date<br>2019 | 12-month<br>rolling year |
| <i>PaxFlash</i>  |  |                      |                          |
| International passenger  | 4.8                                    | 5.4                  | 6.5                      |
| Domestic passenger   | 3.1                                    | 3.5                  | 4.9                      |
| Total passenger  | 3.8                                    | 4.2                  | 5.6                      |
| <i>FreightFlash</i>  |  |                      |                          |
| International freight  | (6.7)                                  | (4.3)                | 1.0                      |
| Domestic freight   | (2.7)                                  | 0.7                  | 3.7                      |
| Total freight  | (5.4)                                  | (2.8)                | 1.8                      |

| TABLE 2: PaxFlash summary – February 2019 |                        |                            |                                   |
|---|------------------------|----------------------------|-----------------------------------|
| Regions                                   | February 2019<br>% YOY | YTD February 2019<br>% YOY | YE thru February<br>2019<br>% YOY |
| International passengers                  |                        |                            |                                   |
| Africa                                    | 9.9                    | 9.5                        | 11.7                              |
| Asia-Pacific                              | 3.4                    | 5.4                        | 7.0                               |
| Europe                                    | 5.9                    | 5.7                        | 6.7                               |
| Latin America-Caribbean                   | 3.6                    | 3.9                        | 4.8                               |
| Middle East                               | 2.6                    | 2.3                        | 2.7                               |
| North America                             | 5.5                    | 5.8                        | 6.4                               |
| World                                     | 4.8                    | 5.4                        | 6.5                               |
| Domestic passengers                       |                        |                            |                                   |
| Africa                                    | 3.0                    | 4.0                        | 6.7                               |
| Asia-Pacific                              | 2.7                    | 3.3                        | 5.6                               |
| Europe                                    | 2.7                    | 2.1                        | 3.6                               |
| Latin America-Caribbean                   | 6.9                    | 6.6                        | 5.9                               |
| Middle East                               | ---                    | ---                        | ---                               |
| North America                             | 2.4                    | 3.4                        | 4.6                               |
| World                                     | 3.1                    | 3.5                        | 4.9                               |
| Total passengers                          |                        |                            |                                   |
| Africa                                    | 7.1                    | 7.3                        | 10.0                              |
| Asia-Pacific                              | 2.7                    | 3.9                        | 6.0                               |
| Europe                                    | 5.0                    | 4.7                        | 5.9                               |
| Latin America-Caribbean                   | 5.9                    | 5.7                        | 5.5                               |
| Middle East                               | 2.5                    | 2.1                        | 2.5                               |
| North America                             | 2.9                    | 3.8                        | 4.9                               |
| World                                     | 3.8                    | 4.2                        | 5.6                               |

Traffic table definitions:

PASSENGER TRAFFIC: departing + arriving passengers

INTERNATIONAL: traffic performed between the designated airport and an airport in another country/territory

DOMESTIC: traffic performed between two airports located in the same country/territory

TOTAL: international + domestic passengers + direct transit passengers counted once (when breakdown is available)

Year-over-year percentage changes (% YOY) are calculated from a representative sample.

YOY Year-over-year same month comparison

YTD Year to date, starting Jan 2019, compared to same period in previous year

YE Year end, based on a rolling 12-month period, compared to the same prior 12-month period

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## FEBRUARY 2019: Worldwide Traffic Results

Passenger traffic / Freight volumes  
(Summary)

| TABLE 3: FreightFlash summary – February 2019 |                        |                            |                                   |
|---|------------------------|----------------------------|-----------------------------------|
| Regions                                       | February 2019<br>% YOY | YTD February 2019<br>% YOY | YE thru February<br>2019<br>% YOY |
| <b>International freight</b>                  |                        |                            |                                   |
| Africa  | 5.3                    | 2.9                        | 10.9                              |
| Asia-Pacific                                  | (11.6)                 | (7.3)                      | (0.1)                             |
| Europe  | (3.1)                  | (2.7)                      | 1.0                               |
| Latin America-Caribbean                       | (3.0)                  | (2.3)                      | 5.0                               |
| Middle East                                   | (4.2)                  | (3.1)                      | (0.7)                             |
| North America                                 | (6.0)                  | (2.4)                      | 2.4                               |
| World   | (6.7)                  | (4.3)                      | 1.0                               |
| <b>Domestic freight</b>                       |                        |                            |                                   |
| Africa  | ...                    | ...                        | ...                               |
| Asia-Pacific                                  | (13.1)                 | (5.3)                      | 1.2                               |
| Europe  | 0.2                    | 0.7                        | (0.4)                             |
| Latin America-Caribbean                       | 4.6                    | 3.1                        | 9.0                               |
| Middle East                                   | ...                    | ...                        | ...                               |
| North America                                 | 1.1                    | 3.4                        | 4.8                               |
| World   | (2.7)                  | 0.7                        | 3.7                               |
| <b>Total freight</b>                          |                        |                            |                                   |
| Africa  | 4.9                    | 2.8                        | 10.8                              |
| Asia-Pacific                                  | (12.0)                 | (6.7)                      | 0.2                               |
| Europe  | (3.1)                  | (2.6)                      | 0.5                               |
| Latin America-Caribbean                       | (0.8)                  | (0.8)                      | 6.1                               |
| Middle East                                   | (2.9)                  | (2.4)                      | (0.6)                             |
| North America                                 | (1.6)                  | 1.2                        | 4.0                               |
| World   | (5.4)                  | (2.8)                      | 1.8                               |

Traffic table definitions:

**FREIGHT TRAFFIC:** loaded and unloaded freight; data in metric tonnes  
**INTERNATIONAL:** traffic performed between the designated airport and an airport in another country/territory  
**DOMESTIC:** traffic performed between two airports located in the same country/territory  
**TOTAL:** international + domestic freight (when breakdown is available)  
**Note:** No domestic freight traffic is reported by airports in the Middle East and Africa regions.  
**Year-over-year percentage changes (% YOY) are calculated from a representative sample.**

**YOY** Year-over-year same month comparison  
**YTD** Year to date, starting Jan 2019, compared to same period in previous year  
**YE** Year end, based on a rolling 12-month period, compared to same prior 12-month period



## MARCH 2019: Worldwide Traffic Results

### Passenger traffic / Freight volumes

(Summary)

| TABLE 1: SUMMARY WORLDWIDE TRAFFIC RESULTS, MARCH 2019 (% CHANGE) |                               |                      |                          |
|---|-------------------------------|----------------------|--------------------------|
|   | March 2019<br>over March 2018 | Year to date<br>2019 | 12-month<br>rolling year |
| <i>PaxFlash</i>   |                               |                      |                          |
| International passenger   | 3.9                           | 4.8                  | 6.0                      |
| Domestic passenger  | 3.4                           | 3.7                  | 4.8                      |
| Total passenger   | 3.6                           | 4.1                  | 5.3                      |
| <i>FreightFlash</i>   |                               |                      |                          |
| International freight   | (1.3)                         | (3.2)                | 0.6                      |
| Domestic freight  | (0.5)                         | 0.1                  | 3.3                      |
| Total freight   | (1.0)                         | (2.1)                | 1.4                      |

| TABLE 2: PaxFlash summary – March 2019 |                     |                         |                             |
|--|---------------------|-------------------------|-----------------------------|
| Regions                                | March 2019<br>% YOY | YTD March 2019<br>% YOY | YE thru March 2019<br>% YOY |
| <i>International passengers</i>        |                     |                         |                             |
| Africa                                 | 7.9                 | 8.9                     | 10.7                        |
| Asia-Pacific                           | 3.4                 | 4.8                     | 6.2                         |
| Europe                                 | 4.4                 | 5.3                     | 6.3                         |
| Latin America-Caribbean                | 4.2                 | 3.8                     | 4.2                         |
| Middle East                            | (0.2)               | 1.2                     | 2.1                         |
| North America                          | 4.4                 | 5.3                     | 6.0                         |
| World                                  | 3.9                 | 4.8                     | 6.0                         |
| <i>Domestic passengers</i>             |                     |                         |                             |
| Africa                                 | 6.0                 | 4.6                     | 5.4                         |
| Asia-Pacific                           | 1.3                 | 2.9                     | 5.0                         |
| Europe                                 | 3.0                 | 2.5                     | 3.5                         |
| Latin America-Caribbean                | 6.6                 | 7.3                     | 6.9                         |
| Middle East                            | ...                 | ...                     | ...                         |
| North America                          | 4.6                 | 3.9                     | 4.6                         |
| World                                  | 3.4                 | 3.7                     | 4.8                         |
| <i>Total passengers</i>                |                     |                         |                             |
| Africa                                 | 7.0                 | 7.3                     | 8.9                         |
| Asia-Pacific                           | 2.0                 | 3.4                     | 5.4                         |
| Europe                                 | 4.0                 | 4.5                     | 5.6                         |
| Latin America-Caribbean                | 5.7                 | 6.1                     | 5.9                         |
| Middle East                            | (0.3)               | 1.1                     | 2.0                         |
| North America                          | 4.6                 | 4.1                     | 4.8                         |
| World                                  | 3.6                 | 4.1                     | 5.3                         |

#### Traffic table definitions:

PASSENGER TRAFFIC: departing + arriving passengers

INTERNATIONAL: traffic performed between the designated airport and an airport in another country/territory

DOMESTIC: traffic performed between two airports located in the same country/territory

TOTAL: international + domestic passengers + direct transit passengers counted once (when breakdown is available)

Year-over-year percentage changes (% YOY) are calculated from a representative sample.

YOY Year-over-year same month comparison

YTD Year to date, starting Jan 2019, compared to same period in previous year

YE Year end, based on a rolling 12-month period, compared to the same prior 12-month period

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## MARCH 2019: Worldwide Traffic Results

Passenger traffic / Freight volumes  
(Summary)

**TABLE 3: FreightFlash summary – March 2019**

| Regions                      | March 2019<br>% YOY | YTD March 2019<br>% YOY | YE thru March<br>2019<br>% YOY |
|------------------------------|---------------------|-------------------------|--------------------------------|
| <b>International freight</b> |                     |                         |                                |
| Africa                       | 1.8                 | 2.2                     | 10.5                           |
| Asia-Pacific                 | (3.4)               | (5.9)                   | (0.5)                          |
| Europe                       | 0.5                 | (1.5)                   | 0.5                            |
| Latin America-Caribbean      | (1.9)               | (1.5)                   | 3.5                            |
| Middle East                  | 0.9                 | (1.4)                   | (0.2)                          |
| North America                | (1.1)               | (1.8)                   | 1.6                            |
| World                        | (1.3)               | (3.2)                   | 0.6                            |
| <b>Domestic freight</b>      |                     |                         |                                |
| Africa                       | ---                 | ---                     | ---                            |
| Asia-Pacific                 | (2.9)               | (4.4)                   | 0.7                            |
| Europe                       | 0.6                 | 0.0                     | 0.6                            |
| Latin America-Caribbean      | (0.4)               | 0.8                     | 7.5                            |
| Middle East                  | ---                 | ---                     | ---                            |
| North America                | 0.5                 | 2.3                     | 4.5                            |
| World                        | (0.5)               | 0.1                     | 3.3                            |
| <b>Total freight</b>         |                     |                         |                                |
| Africa                       | 1.5                 | 2.1                     | 10.4                           |
| Asia-Pacific                 | (3.3)               | (5.5)                   | (0.2)                          |
| Europe                       | 0.4                 | (1.5)                   | 0.4                            |
| Latin America-Caribbean      | (1.5)               | (0.9)                   | 4.6                            |
| Middle East                  | 2.1                 | (0.5)                   | 0.0                            |
| North America                | (0.1)               | 0.8                     | 3.5                            |
| World                        | (1.0)               | (2.1)                   | 1.4                            |

Traffic table definitions:

**FREIGHT TRAFFIC:** loaded and unloaded freight; data in metric tonnes

**INTERNATIONAL:** traffic performed between the designated airport and an airport in another country/territory

**DOMESTIC:** traffic performed between two airports located in the same country/territory

**TOTAL:** international + domestic freight (when breakdown is available)

**Note:** No domestic freight traffic is reported by airports in the Middle East and Africa regions.

Year-over-year percentage changes (% YOY) are calculated from a representative sample.

**YOY** Year-over-year same month comparison

**YTD** Year to date, starting Jan 2019, compared to same period in previous year

**YE** Year end, based on a rolling 12-month period, compared to same prior 12-month period

## APRIL 2019: Worldwide Traffic Results

### Passenger traffic / Freight volumes

(Summary)

**TABLE 1: SUMMARY WORLDWIDE TRAFFIC RESULTS, APRIL 2019 (% CHANGE)**

|                         | April 2019<br>over April 2018 | Year to date<br>2019 | 12-month<br>rolling year |
|-------------------------|-------------------------------|----------------------|--------------------------|
| <b>PaxFlash</b>         |                               |                      |                          |
| International passenger | 5.6                           | 4.9                  | 5.9                      |
| Domestic passenger      | 0.6                           | 2.5                  | 4.1                      |
| <b>Total passenger</b>  | <b>2.9</b>                    | <b>3.5</b>           | <b>4.9</b>               |
| <b>FreightFlash</b>     |                               |                      |                          |
| International freight   | (6.6)                         | (4.4)                | (0.5)                    |
| Domestic freight        | 3.8                           | 1.5                  | 3.5                      |
| <b>Total freight</b>    | <b>(3.6)</b>                  | <b>(2.6)</b>         | <b>0.7</b>               |

**TABLE 2: PaxFlash summary – April 2019**

| Regions                         | April 2019<br>% YOY | YTD April 2019<br>% YOY | YE thru April 2019<br>% YOY |
|---------------------------------|---------------------|-------------------------|-----------------------------|
| <b>International passengers</b> |                     |                         |                             |
| Africa                          | 7.2                 | 8.3                     | 9.2                         |
| Asia-Pacific                    | 4.1                 | 4.5                     | 5.8                         |
| Europe                          | 6.7                 | 5.7                     | 6.5                         |
| Latin America-Caribbean         | 3.1                 | 3.5                     | 4.1                         |
| Middle East                     | 2.6                 | 1.4                     | 2.3                         |
| North America                   | 7.0                 | 5.6                     | 6.3                         |
| World                           | 5.6                 | 4.9                     | 5.9                         |
| <b>Domestic passengers</b>      |                     |                         |                             |
| Africa                          | 7.4                 | 5.7                     | 5.9                         |
| Asia-Pacific                    | (3.9)               | 0.4                     | 3.5                         |
| Europe                          | (0.9)               | 1.5                     | 2.9                         |
| Latin America-Caribbean         | 7.3                 | 6.3                     | 6.1                         |
| Middle East                     | ...                 | ...                     | ...                         |
| North America                   | 2.9                 | 3.6                     | 4.3                         |
| World                           | 0.6                 | 2.5                     | 4.1                         |
| <b>Total passengers</b>         |                     |                         |                             |
| Africa                          | 8.0                 | 7.4                     | 8.1                         |
| Asia-Pacific                    | (1.0)               | 1.8                     | 4.2                         |
| Europe                          | 4.8                 | 4.6                     | 5.6                         |
| Latin America-Caribbean         | 6.0                 | 5.4                     | 5.4                         |
| Middle East                     | 3.3                 | 1.2                     | 2.5                         |
| North America                   | 3.5                 | 3.9                     | 4.6                         |
| World                           | 2.9                 | 3.5                     | 4.9                         |

Traffic table definitions:

**PASSENGER TRAFFIC:** departing + arriving passengers

**INTERNATIONAL:** traffic performed between the designated airport and an airport in another country/territory

**DOMESTIC:** traffic performed between two airports located in the same country/territory

**TOTAL:** international + domestic passengers + direct transit passengers counted once (when breakdown is available)

Year-over-year percentage changes (% YOY) are calculated from a representative sample.

**YOY** Year-over-year same month comparison

**YTD** Year to date, starting Jan 2019, compared to same period in previous year

**YE** Year end, based on a rolling 12-month period, compared to the same prior 12-month period



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## APRIL 2019: Worldwide Traffic Results

Passenger traffic / Freight volumes  
(Summary)

| TABLE 3: FreightFlash summary – April 2019 |                     |                         |                             |
|--|---------------------|-------------------------|-----------------------------|
| Regions                                    | April 2019<br>% YOY | YTD April 2019<br>% YOY | YE thru April 2019<br>% YOY |
| <b>International freight</b>               |                     |                         |                             |
| Africa                                     | 5.2                 | 3.3                     | 8.8                         |
| Asia-Pacific                               | (8.4)               | (6.4)                   | (1.6)                       |
| Europe                                     | (6.0)               | (3.3)                   | (0.5)                       |
| Latin America-Caribbean                    | (5.1)               | (2.3)                   | 2.4                         |
| Middle East                                | (4.6)               | (3.0)                   | (1.2)                       |
| North America                              | (7.0)               | (4.2)                   | 0.3                         |
| World                                      | (6.6)               | (4.4)                   | (0.5)                       |
| <b>Domestic freight</b>                    |                     |                         |                             |
| Africa                                     | ---                 | ---                     | ---                         |
| Asia-Pacific                               | (3.1)               | (3.7)                   | 0.8                         |
| Europe                                     | 5.3                 | 3.2                     | 1.2                         |
| Latin America-Caribbean                    | 5.5                 | 3.1                     | 7.3                         |
| Middle East                                | ---                 | ---                     | ---                         |
| North America                              | 7.5                 | 3.9                     | 4.8                         |
| World                                      | 3.8                 | 1.5                     | 3.5                         |
| <b>Total freight</b>                       |                     |                         |                             |
| Africa                                     | 6.8                 | 3.6                     | 9.0                         |
| Asia-Pacific                               | (7.0)               | (5.7)                   | (1.0)                       |
| Europe                                     | (5.5)               | (3.1)                   | (0.5)                       |
| Latin America-Caribbean                    | (2.1)               | (0.7)                   | 3.8                         |
| Middle East                                | (4.3)               | (2.3)                   | (1.0)                       |
| North America                              | 1.4                 | 0.7                     | 3.1                         |
| World                                      | (3.6)               | (2.6)                   | 0.7                         |

Traffic table definitions:

**FREIGHT TRAFFIC:** loaded and unloaded freight; data in metric tonnes

**INTERNATIONAL:** traffic performed between the designated airport and an airport in another country/territory

**DOMESTIC:** traffic performed between two airports located in the same country/territory

**TOTAL:** international + domestic freight (when breakdown is available)

**Note:** No domestic freight traffic is reported by airports in the Middle East and Africa regions.

Year-over-year percentage changes (% YOY) are calculated from a representative sample.

**YOY** Year-over-year same month comparison

**YTD** Year to date, starting Jan 2019, compared to same period in previous year

**YE** Year end, based on a rolling 12-month period, compared to same prior 12-month period

<http://www.icao.int/sustainability/Pages/Air-Traffic-Monitor.aspx>

Air Transport Bureau  
E-mail: [ecd@icao.int](mailto:ecd@icao.int)

#### GLOBAL KEY FIGURES

**FEB 2019**  
(versus FEB 2018)

RPK ▲ +5.3% ASK ▲ +5.4% FTK ▼ -4.7% LF: 80.6% ▲ +1.0 pt

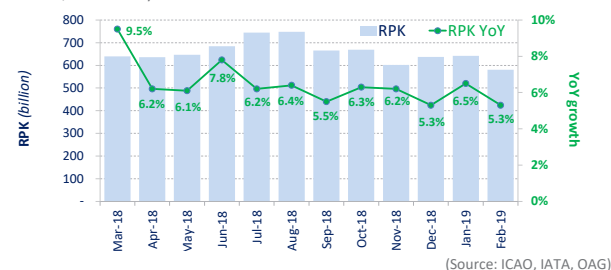
**OUTLOOK\* - MAR 2019**  
(versus MAR 2018)

ASK ▲ +3.9% \* Source OAG

#### PASSENGER TRAFFIC

##### Revenue Passenger-Kilometres - RPK

World passenger traffic grew by +5.3% YoY in February 2019, -1.2 percentage points lower than the growth in the previous month. This was the slowest rate over the last twelve months, with all regions posting a slowdown, except for Latin America/Caribbean. The weakest performance was experienced by the Middle East, which became the only region with negative growth. Europe recorded the highest growth followed by Asia/Pacific. China remained as the fastest growing domestic market, followed by the Russian Federation and India.

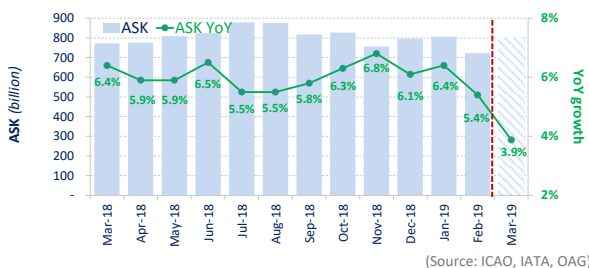


#### CAPACITY

##### Available Seat-Kilometres - ASK

Capacity worldwide increased by +5.4% YoY in February 2019, -1.0 percentage point lower than the growth in the previous month (+6.4%).

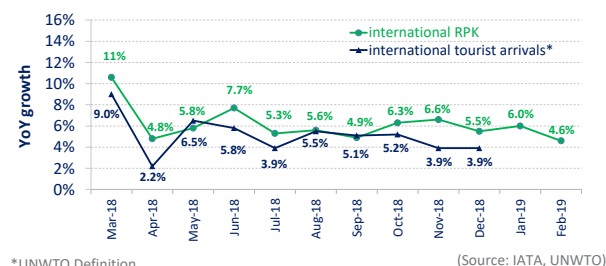
According to the airline schedules, capacity expansion is expected to slow down to +3.9% in March 2019.



#### International Traffic vs. Tourist Arrivals

International passenger traffic grew by +4.6% YoY in February 2019, -1.4 percentage points lower than the growth in the previous month. All regions decelerated in traffic growth, with the most substantial slowdown in Asia/Pacific and a negative growth in the Middle East. Europe continued to be the strongest international market.

The growth of international tourist arrivals\* is expected to follow a similar trend.

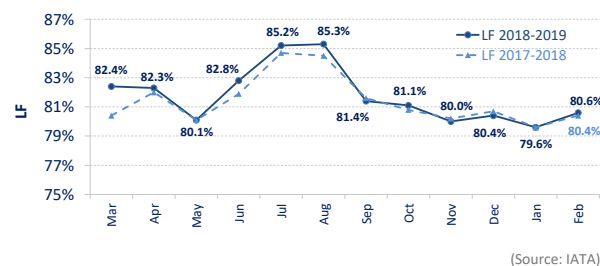


\* UNWTO Definition

#### Load Factor - LF

The passenger Load Factor reached 80.6% in February 2019, +1.0 percentage point higher than the LF recorded in the previous month.

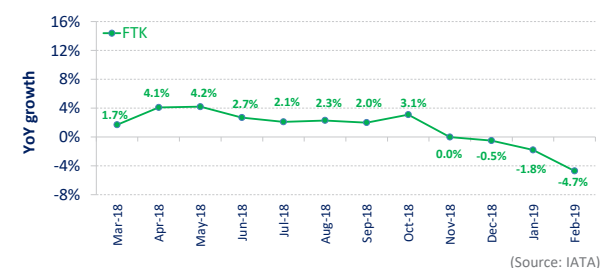
As capacity expansion continued to match the travel demand, the February LF improved by a minor +0.2 percentage point compared to the rate in the same period of 2018.



#### FREIGHT TRAFFIC

##### Freight Tonne-Kilometres - FTK

World freight traffic reported a negative growth of -4.7% YoY in February 2019, -2.9 percentage points lower than the growth in the previous month. After experiencing a third consecutive negative growth, freight traffic growth reached its lowest in the last twelve months. The increasing headwinds to freight demand reflected the weakness in global trade. All regions posted decline over the last year, except for Latin America/Caribbean with a modest growth. Asia/Pacific, the region with the largest share of freight traffic, experienced the most noticeable decline, contracting more than 10% over the last year. Slight improvements were observed in Europe, the Middle East and North America, albeit remained as negative.



**ACRONYMS:** AICI: Airports Council International; ASK: Available Seat-Kilometres; IATA: International Air Transport Association; FTK: Freight Tonne-Kilometres; LF: Passenger Load Factor; OAG: Official Airline Guide; RPK: Revenue Passenger-Kilometres; UNWTO: World Tourism Organization; YoY: Year-on-year; YTD: Year-to-date.

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ICAO

## ECONOMIC DEVELOPMENT

APR 2019: Air Transport Monthly Monitor

World Results and Analyses for JAN 2019. Total scheduled services  
(Domestic and international)

## TOP 15 AIRPORTS (Ranked by aircraft departures, passengers and volume of freight)

FEB 2019: +1.8%, +2.0%, and -7.4% YoY in terms of aircraft departures, passengers and freight for the Top 15

FEB 19

| Airports<br>(ranking by number of departures) | Departures | YoY   | Airports<br>(ranking by number of passengers) | Passengers* | YoY   | Airports<br>(ranking by tonnes of freight) | Freight** | YoY    |
|---|------------|-------|---|-------------|-------|--|-----------|--------|
| Atlanta GA, US (ATL)                          | 32,850     | 0.8%  | Beijing, CN (PEK)                             | 4,056,736   | 4.2%  | Memphis TN, US (MEM)                       | 339,562   | -0.6%  |
| Chicago IL, US (ORD)                          | 32,030     | 4.1%  | Atlanta GA, US (ATL)                          | 3,819,394   | 1.5%  | Hong Kong, CN (HKG)                        | 268,000   | -14.6% |
| Los Angeles CA, US (LAX)                      | 25,492     | -2.1% | Dubai, AE (DXB)                               | 3,420,510   | -1.3% | Dubai, AE (DXB)                            | 195,416   | 2.0%   |
| Dallas/Fort Worth TX, US (DFW)                | 25,355     | 4.8%  | Tokyo, JP (HND)                               | 3,227,089   | -1.4% | Shanghai, CN (PVG)                         | 192,748   | -17.3% |
| Beijing, CN (PEK)                             | 23,351     | -0.5% | Shanghai, CN (PVG)                            | 3,062,331   | 5.1%  | Incheon, KR (ICN)                          | 176,433   | -10.8% |
| Denver CO, US (DEN)                           | 21,732     | 4.3%  | Los Angeles CA, US (LAX)                      | 3,033,201   | 0.4%  | Louisville KY, US (SDF)                    | 175,238   | -1.7%  |
| Charlotte NC, US (CLT)                        | 21,590     | 5.8%  | Guangzhou, CN (CAN)                           | 2,943,125   | 3.8%  | Miami FL, US (MIA)                         | 161,244   | -4.4%  |
| Shanghai, CN (PVG)                            | 19,973     | 2.7%  | Hong Kong, CN (HKG)                           | 2,939,500   | 1.2%  | Anchorage AK, US (ANC)                     | 158,452   | -11.8% |
| Guangzhou, CN (CAN)                           | 18,983     | 0.0%  | Incheon, KR (ICN)                             | 2,889,660   | 5.3%  | Doha, QA (DOH)                             | 154,168   | -4.1%  |
| Frankfurt, DE (FRA)                           | 18,425     | 4.7%  | Bangkok, TH (BKK)                             | 2,823,224   | 3.8%  | Frankfurt, DE (FRA)                        | 152,099   | -2.8%  |
| Amsterdam, NL (AMS)                           | 18,283     | 0.4%  | London, GB (LHR)                              | 2,741,144   | 1.6%  | Paris, FR (CDG)                            | 142,143   | -3.3%  |
| New Delhi, IN (DEL)                           | 17,937     | -2.8% | Chicago IL, US (ORD)                          | 2,735,609   | 2.6%  | Tokyo, JP (NRT)                            | 141,783   | -16.1% |
| Houston TX, US (IAH)                          | 17,929     | 1.9%  | New Delhi, IN (DEL)                           | 2,688,167   | -3.0% | Singapore, SG (SIN)                        | 136,500   | -8.3%  |
| Miami FL, US (MIA)                            | 17,672     | 3.4%  | Dallas/Fort Worth TX, US (DFW)                | 2,568,595   | 4.3%  | Los Angeles CA, US (LAX)                   | 135,709   | -9.4%  |
| London, GB (LHR)                              | 17,671     | 0.2%  | Singapore, SG (SIN)                           | 2,565,500   | 4.0%  | London, GB (LHR)                           | 128,065   | -3.8%  |

Note: Total scheduled and non-scheduled services

(Source: ACI)

In terms of **aircraft departures**, the Top 15 airports reported a growth of +1.8% YoY. Twelve out of the Top 15 airports posted YoY increases. **Atlanta** remained at 1st with a modest growth of +0.8%. The strongest growth in operations was recorded by **Charlotte** at +5.8%, followed by **Dallas/Fort Worth** at +4.8%.

In terms of **passengers**, the Top 15 airports reported a growth of +2.0% YoY. All the Top 15 airports posted YoY increases, except for **Dubai**, **Tokyo**, and **New Delhi** with a decline of -1.3%, -1.4%, and -3.0%, respectively. **Beijing** topped the list and grew by +4.2%. **Incheon** reported the highest growth at +5.3%, followed by **Shanghai** at 5.1%.

In terms of **freight**, the Top 15 airports reported a decline of -7.4% YoY. All of the Top 15 airports posted YoY decreases, except for **Dubai** with a moderate increase of +2.0%. Four major freight hubs in Asia/Pacific posted substantial double-digit declines, with the most significant fall in **Shanghai** by -17.3%, followed by **Tokyo** (-16.1%) and **Hong Kong** (-14.6%).

## TOP 15 AIRLINE GROUPS (Ranked by RPK)

FEB 2019: +5.6% YoY in terms of RPK for the Top 15

FEB 19

In terms of RPK, the Top 15 airline groups accounted for 47.3% of world total RPK in February 2019 and grew by +5.6% YoY. This growth was +0.3 percentage point higher than the world average on scheduled services. All the Top 15 airline groups posted YoY increases.

**American** grew at +1.0% and retained the 1st position. Following were **United** and **Delta**, up by +4.7% and +2.9%, respectively. **Southwest** grew by +4.2% and remained at 11th.

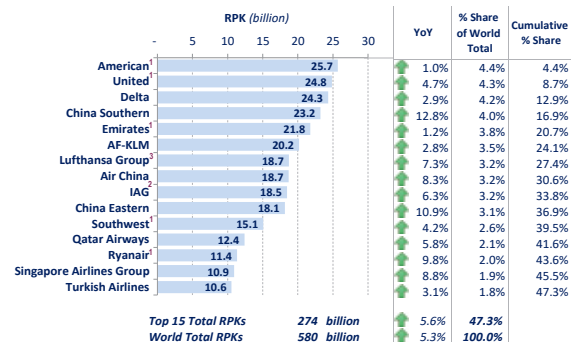
**Emirates** dropped 1 position to 5th with a moderate growth of +1.2%. **Qatar** remained at 12th and rose by +5.8%.

**AF-KLM** grew modestly by +2.8% and remained at 6th. With a solid growth of +7.3%, **Lufthansa** improved 1 position to 7th. **IAG** dropped 2 positions down to 9th, albeit with an increase of +6.3%. **Ryanair** recorded the third highest growth among the Top 15, at +9.8% and remained at 13th. **Turkish Airlines** remained at 15th with a moderate growth of +3.1%.

The growth of major airlines in Asia/Pacific remained solid with two airlines posting double-digit growth. **China Southern** recorded the fastest growth among the Top 15, at +12.8% and ranked 1 position up to 4th. **Air China** also ranked 1 position up to 8th and grew by +8.3%.

**China Eastern** posted the second highest growth of +10.9%, albeit remained at 10th.

**Singapore Airlines** grew by +8.8% and remained at 14th.



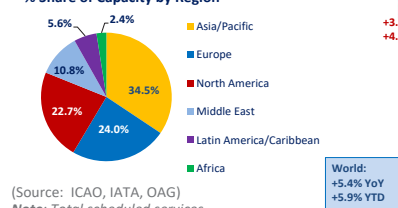
(Source: ICAO, airlines' websites)

Note: Total scheduled and non-scheduled services

## CAPACITY BY REGION (ICAO Statistical Regions)

Feb 2019: +5.4% YoY in terms of World ASK

% Share of Capacity by Region



(Source: ICAO, IATA, OAG)

Note: Total scheduled services

\* Embarked Passengers \*\* Loaded and Unloaded Freight in Tonnes 1. ICAO estimates 2. British Airways, Aer Lingus, Iberia, and Vueling 3. Lufthansa Airlines, Eurowings, SWISS, Austrian Airlines, Brussels Airlines, Sun Express, and Lufthansa Cargo

ACRONYMS: AIC: Airports Council International; ASK: Available Seat-Kilometres; IATA: International Air Transport Association; FTK: Freight Tonne-Kilometres; LF: Passenger Load Factor; OAG: Official Airline Guide; RPK: Revenue Passenger-Kilometres; UNWTO: World Tourism Organization; YoY: Year-on-year; YTD: Year-to-date.

Worldwide capacity expanded by +5.4% YoY in February 2019. All regions posted deceleration in capacity expansion, except for **Latin America/Caribbean** with slight increase.

**Europe** continued to be the fastest growing region, followed by **Asia/Pacific** and **Latin America/Caribbean**. **Africa** remained as the slowest region in terms of capacity expansion.





ICAO

# ECONOMIC DEVELOPMENT

## MAY 2019: Air Transport Monthly Monitor

World Results and Analyses for FEB 2019. Total scheduled services  
(Domestic and international)

<http://www.icao.int/sustainability/Pages/Air-Traffic-Monitor.aspx>

Air Transport Bureau  
E-mail: [ecd@icao.int](mailto:ecd@icao.int)

### GLOBAL KEY FIGURES

**MAR 2019**  
(versus MAR 2018)

RPK ▲ +3.1% ASK ▲ +4.2% FTK ▲ +0.1% LF: 81.7% ▲ +1.1 pt

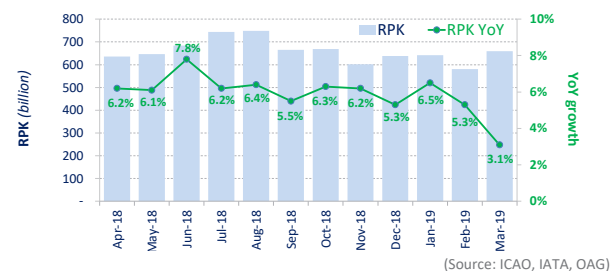
**OUTLOOK\* - APR 2019**  
(versus APR 2018)

ASK ▲ +3.7% \* Source OAG

### PASSENGER TRAFFIC

#### Revenue Passenger-Kilometres - RPK

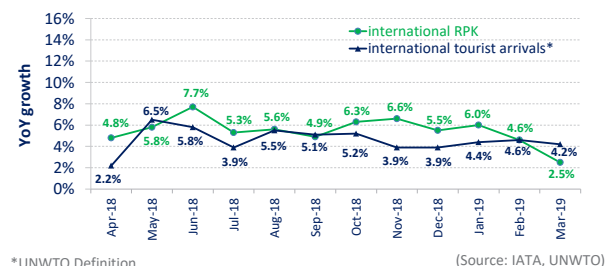
World passenger traffic grew by +3.1% YoY in March 2019, -2.2 percentage points lower than the growth in the previous month. This was the weakest performance over the last five years, reflecting the current global economic backdrop. All regions posted a slowdown, except for Latin America/Caribbean and North America. The weakest performance was experienced by the Middle East, which was the only region with negative growth. Russian Federation recorded the fastest domestic growth, followed by United States and Japan, surpassing China and India.



#### International Traffic vs. Tourist Arrivals

International passenger traffic grew by +2.5% YoY in March 2019, -2.1 percentage points lower than the growth in the previous month. All regions decelerated in traffic growth, except for Latin America/Caribbean. The Middle East continued to be the only region with negative growth.

The growth of international tourist arrivals\* was relatively less fluctuated.



### FREIGHT TRAFFIC

#### Freight Tonne-Kilometres - FTK

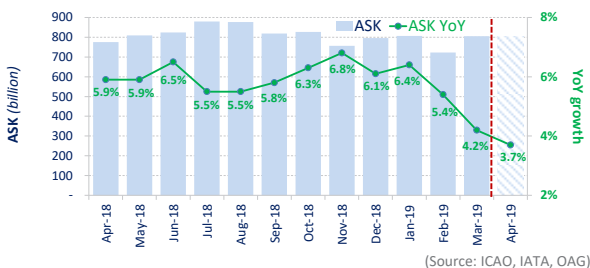
World freight traffic reported a minor growth of +0.1% YoY in March 2019, +4.8 percentage points higher than the growth in the previous month. Freight traffic revived slightly after experiencing three consecutive declines compared to a year ago, with all regions posting improvements. Despite the turnaround, conditions for freight growth remain challenging, impacted by various headwinds to global trade such as the trade tensions. Asia/Pacific, the region accounting for more than one third of the global freight market, continued to show negative growth, attributing to the overall weakness. Africa recorded the most substantial recovery, and became the strongest growing region in freight demand.

### CAPACITY

#### Available Seat-Kilometres - ASK

Capacity worldwide increased by +4.2% YoY in March 2019, -1.2 percentage points lower than the growth in the previous month (+5.4%).

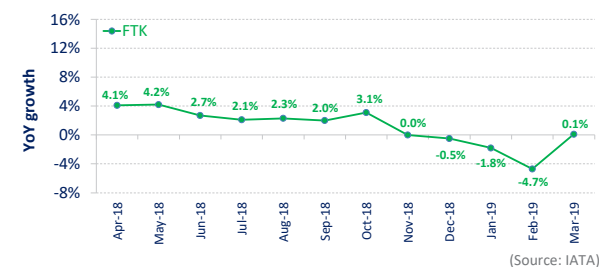
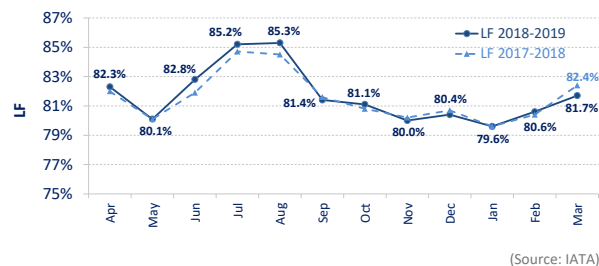
According to the airline schedules, capacity expansion is expected to further slow down to +3.7% in April 2019.



#### Load Factor - LF

The passenger Load Factor reached 81.7% in March 2019, +1.1 percentage points higher than the LF recorded in the previous month.

As capacity expansion outpaced the traffic growth, the March LF was -0.7 percentage point lower compared to the rate in the same period of 2018.



ACRONYMS: ACI: Airports Council International; ASK: Available Seat-Kilometres; IATA: International Air Transport Association; FTK: Freight Tonne-Kilometres; LF: Passenger Load Factor; OAG: Official Airline Guide; RPK: Revenue Passenger-Kilometres; UNWTO: World Tourism Organization; YoY: Year-on-year; YTD: Year-to-date.

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ICAO

# ECONOMIC DEVELOPMENT

## MAY 2019: Air Transport Monthly Monitor

World Results and Analyses for FEB 2019. Total scheduled services  
(Domestic and international)

### TOP 15 AIRPORTS (Ranked by aircraft departures, passengers and volume of freight)

MAR 2019: +1.8%, +1.8%, and -1.5% YoY in terms of aircraft departures, passengers and freight for the Top 15

MAR 19

| Airports<br>(ranking by number of departures) | Departures | YoY     | Airports<br>(ranking by number of passengers) | Passengers* | YoY     | Airports<br>(ranking by tonnes of freight) | Freight** | YoY      |
|---|------------|---------|---|-------------|---------|--|-----------|----------|
| Atlanta GA, US (ATL)                          | 39,056     | ↑ 1.2%  | Atlanta GA, US (ATL)                          | 4,810,154   | ↑ 3.4%  | Hong Kong, CN (HKG)                        | 422,000   | ↑ 0.1%   |
| Chicago IL, US (ORD)                          | 38,453     | ↑ 4.2%  | Beijing, CN (PEK)                             | 4,090,842   | ↓ -4.8% | Memphis TN, US (MEM)                       | 385,233   | ↓ -3.2%  |
| Los Angeles CA, US (LAX)                      | 29,341     | ↓ -0.5% | Tokyo, JP (HND)                               | 3,922,071   | ↑ 5.7%  | Shanghai, CN (PVG)                         | 308,537   | ↓ -2.9%  |
| Dallas/Fort Worth TX, US (DFW)                | 29,213     | ↑ 4.7%  | Dubai, AE (DXB)                               | 3,762,488   | ↓ -4.2% | Anchorage AK, US (ANC)                     | 241,747   | ↑ 1.8%   |
| Denver CO, US (DEN)                           | 24,815     | ↑ 2.2%  | Los Angeles CA, US (LAX)                      | 3,684,399   | ↑ 1.9%  | Incheon, KR (ICN)                          | 239,518   | ↓ -4.6%  |
| Beijing, CN (PEK)                             | 24,678     | ↓ -5.6% | Chicago IL, US (ORD)                          | 3,472,688   | ↑ 3.0%  | Dubai, AE (DXB)                            | 233,329   | ↑ 5.1%   |
| Charlotte NC, US (CLT)                        | 24,061     | ↑ 3.5%  | London, GB (LHR)                              | 3,263,947   | ↑ 0.5%  | Louisville KY, US (SDF)                    | 203,698   | ↓ -2.4%  |
| Shanghai, CN (PVG)                            | 21,546     | ↑ 0.9%  | Hong Kong, CN (HKG)                           | 3,204,000   | ↑ 0.4%  | Doha, QA (DOH)                             | 191,194   | ↑ 3.1%   |
| Frankfurt, DE (FRA)                           | 21,028     | ↑ 2.1%  | Shanghai, CN (PVG)                            | 3,183,398   | ↑ 1.2%  | Frankfurt, DE (FRA)                        | 190,900   | ↑ 0.8%   |
| Houston TX, US (IAH)                          | 20,957     | ↑ 4.1%  | Guangzhou, CN (CAN)                           | 3,157,741   | ↑ 4.5%  | Taipei, CN (TPE)                           | 187,480   | ↓ -5.7%  |
| Guangzhou, CN (CAN)                           | 20,744     | ↑ 2.6%  | Dallas/Fort Worth TX, US (DFW)                | 3,052,011   | ↑ 5.0%  | Tokyo, JP (NRT)                            | 185,756   | ↓ -10.3% |
| Amsterdam, NL (AMS)                           | 20,641     | ↓ -0.9% | Paris, FR (CDG)                               | 3,014,390   | ↑ 7.2%  | Singapore, SG (SIN)                        | 184,800   | ↓ -1.4%  |
| Phoenix AZ, US (DVT)                          | 20,375     | ↑ 5.7%  | Bangkok, TH (BKK)                             | 2,943,165   | ↑ 1.6%  | Los Angeles CA, US (LAX)                   | 178,915   | ↑ 0.1%   |
| Phoenix AZ, US (PHX)                          | 20,270     | ↑ 0.5%  | Incheon, KR (ICN)                             | 2,942,622   | ↑ 3.8%  | Miami FL, US (MIA)                         | 175,678   | ↓ -1.6%  |
| Paris, FR (CDG)                               | 20,037     | ↑ 3.7%  | Amsterdam, NL (AMS)                           | 2,818,884   | ↑ 1.3%  | Paris, FR (CDG)                            | 171,000   | ↓ -0.2%  |

Note: Total scheduled and non-scheduled services

(Source: ACI)

In terms of aircraft departures, the Top 15 airports reported a growth of +1.8% YoY. Twelve out of the Top 15 airports posted YoY increases. Atlanta remained at 1st with a modest growth of +1.2%. The strongest growth in operations was recorded by Phoenix at +5.7%, followed by Dallas/Fort Worth at +4.7%.

In terms of passengers, the Top 15 airports reported a growth of +1.8% YoY. All the Top 15 airports posted YoY increases, except for Beijing and Dubai with a decline of -4.8% and -4.2%, respectively. Atlanta regained the 1st position with a growth of +3.4%. The highest growth was reported by Paris at +7.2%, followed by Tokyo at +5.7%.

In terms of freight, the Top 15 airports reported a decline of -1.5% YoY. Nine out of the Top 15 airports posted YoY declines, mostly in Asia/Pacific and North America. The sharpest decrease was posted by Tokyo (-10.3%), followed by Taipei (-5.7%) and Incheon (-4.6%). Dubai continued to outperform the other major freight hubs and was up by +5.1%.

### TOP 15 AIRLINE GROUPS (Ranked by RPK)

MAR 2019: +4.1% YoY in terms of RPK for the Top 15

In terms of RPK, the Top 15 airline groups accounted for 48.4% of world total RPK in March 2019 and grew by +4.1% YoY. This growth was +1.0 percentage point higher than the world average on scheduled services. All the Top 15 airline groups posted YoY increases.

For the first time of the year, Delta ranked 1st with a solid growth of +5.3%, followed by United, rising at +6.0% YoY. With a marginal increase of +0.3%, American ranked 2 positions down to 3rd. Southwest grew by +3.9% and was up 2 positions to 9th.

Moderation was observed by the Middle Eastern airlines in the Top 15. Emirates grew marginally by +0.8%, albeit ranked 1 position up to 4th. Qatar remained at 12th and rose by +2.9%.

AF-KLM grew modestly by +2.8% and ranked 5th. Both Lufthansa and IAG improved 1 position to 6th and 8th, and grew at +4.1% and +5.1%, respectively. Ryanair recorded the highest growth among the Top 15, at +7.0% while remained at 13th.

China Southern recorded the second fastest growth among the Top 15, at +6.8%, while ranked 3 positions down to 7th. Air China also went down 2 positions to 10th and grew moderately by +2.9%. China Eastern and Singapore Airlines grew solidly by +6.6% and +6.2%, but ranked 1 position down to 11th and 15th, respectively.

MAR 19

| RPK (billion)            | YoY         | % Share of World Total | Cumulative % Share |
|--------------------------|-------------|------------------------|--------------------|
| Delta                    | 32.1        | ↑ 5.3%                 | 4.9%               |
| United                   | 32.0        | ↑ 6.0%                 | 9.7%               |
| American                 | 31.1        | ↑ 0.3%                 | 14.4%              |
| Emirates                 | 25.2        | ↑ 0.8%                 | 18.2%              |
| AF-KLM                   | 23.2        | ↑ 2.8%                 | 21.8%              |
| Lufthansa Group          | 23.1        | ↑ 4.1%                 | 25.3%              |
| China Southern           | 22.8        | ↑ 6.8%                 | 28.7%              |
| IAG                      | 22.3        | ↑ 5.1%                 | 32.1%              |
| Southwest                | 19.6        | ↑ 3.9%                 | 35.1%              |
| Air China                | 19.1        | ↑ 2.9%                 | 38.0%              |
| China Eastern            | 17.9        | ↑ 6.6%                 | 40.7%              |
| Qatar Airways            | 13.8        | ↑ 2.9%                 | 42.8%              |
| Ryanair                  | 13.2        | ↑ 7.0%                 | 44.8%              |
| Air Canada               | 12.1        | ↑ 3.4%                 | 46.6%              |
| Singapore Airlines Group | 12.0        | ↑ 6.2%                 | 48.4%              |
| Top 15 Total RPKs        | 320 billion | ↑ 4.1%                 | 48.4%              |
| World Total RPKs         | 660 billion | ↑ 3.1%                 | 100.0%             |

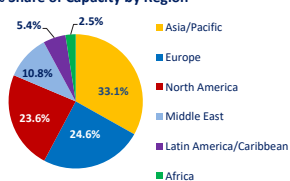
(Source: ICAO, airlines' websites)

Note: Total scheduled and non-scheduled services

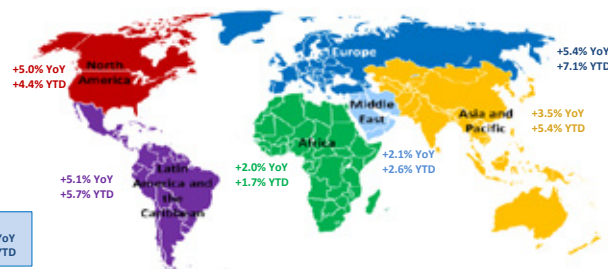
### CAPACITY BY REGION (ICAO Statistical Regions)

MAR 2019: +4.2% YoY in terms of World ASK

% Share of Capacity by Region



(Source: ICAO, IATA, OAG)  
Note: Total scheduled services



Worldwide capacity expanded by +4.2% YoY in March 2019. All regions posted deceleration in capacity expansion, except for Africa and North America. The most significant slowdown was posted by Europe and Asia/Pacific. Nevertheless, Europe continued to be the fastest growing region, followed by Latin America/Caribbean.

In terms of YTD capacity increase, Africa and the Middle East were the slowest regions.

\* Embarked Passengers \*\* Loaded and Unloaded Freight in Tonnes 1. ICAO estimates 2. Lufthansa Airlines, Eurowings, SWISS, Austrian Airlines, Brussels Airlines, Sun Express, and Lufthansa Cargo 3. British Airways, Aer Lingus, Iberia, and Vueling  
ACRONYMS: ACI: Airports Council International; ASK: Available Seat-Kilometres; IATA: International Air Transport Association; FTK: Freight Tonne-Kilometres; LF: Passenger Load Factor; OAG: Official Airline Guide; RPK: Revenue Passenger-Kilometres; UNWTO: World Tourism Organization; YoY: Year-on-year; YTD: Year-to-date.