HERMES

AIR TRANSPORT ORGANISATION

THE MAGAZINE

10 | APRIL - JUNE 2020

DR KOSTAS IATROU

Director General,
Hermes - Air Transport
Organisation

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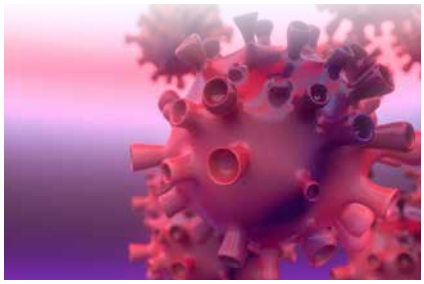


TOP NEWS

April - June 2020

6/04/2020

IATA RELEASES 2019 AIRLINE SAFETY REPORT

The International Air Transport Association (IATA) announced the release of the 2019 Safety Report showing continuing improvements in airline safety compared to 2018 and to the preceding five years.
All major 2019 safety performance indicators improved compared to 2018 and to the average of the 2014-2018 period as shown below:

	2019	2018	5-YEAR AVERAGE (2014-2018)
All accident rate (accidents per one million flights)	1.13 or 1 accident every 884,000 flights	1.36 or 1 accident every 733,000 flights	1.56 or 1 accident every 640,000 flights
Total accidents	53	62	63.2
Fatal accidents	8 fatal accidents (4 jet and 4 turboprop) with 240 fatalities*	11 fatal accidents with 523 fatalities	8.2 fatal accidents/year with an average of 303.4 fatalities each year
Fatality risk	0.09	0.17	0.17
Jet hull losses (per one million flights)	0.15 which is equal to 1 major accident for every 6.6 million flights	0.18 (one major accident for every 5.5 million flights)	0.24 (one major accident for every 4.1 million flights)
Turboprop hull losses (per one million flights)	0.69 (1 hull loss for every 1.45 million flights)	0.70 (1 hull loss for every 1.42 million flights)	1.40 (1 hull loss for every 714,000 flights)

**There were also 7 fatalities on the ground in the accident involving Busy Bee Congo*

7/04/2020

EUROCONTROL STATES AGREE A €1.1 BILLION DEFERRAL PACKAGE TO ASSIST AIRLINES

The EUROCONTROL Member States have agreed a financial package enabling airlines to defer the payment of up to €1.1 billion of air traffic control fees due for payment to Europe's air traffic management industry in the coming months.
As a result of COVID-19, the number of flights operating daily in European airspace has declined by 90%. This dramatic reduction in operations is likely to continue for a number of weeks to come and therefore the airline industry had sought the support of EUROCONTROL Member States to help it deal with its sudden and significant cash flow crisis.

EUROCONTROL

7/04/2020

U.S. DEPARTMENT OF TRANSPORTATION ISSUES FINAL ORDER ON SERVICE OBLIGATIONS FOR AIR CARRIERS RECEIVING FINANCIAL RELIEF THROUGH CARES ACT

The U.S. Department of Transportation today issued a final order establishing parameters for implementing the authority granted to the Secretary of Transportation by Sections 4005 and 4114(b) of the Coronavirus Aid, Recovery, and Economic Security Act (the CARES Act).

The order, which finalizes, with some modifications, the tentative findings made in Order 2020-3-10 (March 31, 2020), requires that air carriers receiving financial assistance under the CARES Act maintain minimum air services on a nationwide basis, with some exceptions.

Air carriers offering scheduled passenger service and all-cargo carriers are covered by the order; however, the Department is not requiring service obligations of all-cargo carriers at this time.

Charter operations and air taxi operators are not covered by this order.

The order is designed to ensure that covered air carriers maintain a defined minimum level of flights to communities they served prior to March 1, with adjustments to our initial proposal made to address seasonal services and the potentially disproportionate impact of minimum service levels on certain segments of the industry.

The initial term for the service obligations extends through September 30, 2020, which may be extended by the Department. Procedures for an exemption process are also included in the order.

8/04/2020

ALTA COMMEMORATES 40 YEARS SERVING THE AVIATION INDUSTRY

On April 8, 1980 in Bogota, Colombia, 12 Latin American airlines founded the Latin American Air Transport International Association (AITAL):

Aerolíneas Argentinas, Aeroméxico, Aeroperú, Avianca, Cruzeiro Do Sul, Varig, Empresa Ecuatoriana de Aviación, Lacsa, Líneas Aéreas Paraguayas, Lloyd Aéreo Boliviano, Mexicana de Aviación and Viasa.

The foundation of AITAL was a response to the conjuncture of the industry and the need for a common forum to analyze and discuss on an equal basis the issues affecting international air transport and, specifically, air transport in Latin America, with the aim of defining guidelines to better defend regional interests for the mutual benefit of the air transport in the region and its users.

Its first Executive Director was Dr. Diego Pardo Tovar and its first President of the Executive Committee was Mr. Julio Mario Santo Domingo, who at that time served as President of the Board of Directors of Avianca.

In 2003, after two decades in Bogota, the Association reached a major milestone with the establishment of its headquarters in Miami, because of the relevance this city was taking in the international context and the connectivity it offered to all Latin American and Caribbean countries. The structural changes that took place at that time in the Association led to officially change it name to Latin American Air Transport Association (ALTA) in 2004.

The new ALTA opened the possibility for regional and domestic airlines, extra-regional airlines operating in Latin America and suppliers of different business areas to join the Association.

With the expansion, ALTA included the Caribbean airlines and updated its name to Latin American and Caribbean Air Transport Association. In 2018, ALTA reached a new milestone with the establishment of its headquarters in Panama City, the restructuring of the team and vision, and subsequently the transformation of its corporate identity with the slogan ALTA on the move.

14/04/2020

U.S. TRANSPORTATION SECRETARY ELAINE L. CHAO ANNOUNCES $10 BILLION IN RELIEF FOR AMERICA'S AIRPORTS

U.S. Transportation Secretary Elaine L. Chao today announced the award of approximately $10 billion to commercial and general aviation airports from the Trump Administration's newly created Coronavirus Aid, Relief, and Economic Security (CARES) Act Airport Grant Program. The effort will provide unprecedented and immediate relief to American families, workers, and businesses. Source: DOT

14/04/2020

GOL REACHES DEAL WITH BOEING ON 737 MAX COMPENSATION, ORDERS AND PAYMENT TERMS

GOL Linhas Aéreas Inteligentes S.A. ("GOL" or "Company") announces it reached an agreement with The Boeing Company ("Boeing") regarding the 737 MAX, which includes cash compensation and changes to future orders and associated payment schedules. After carefully considering these impacts, the Company and Boeing reached an agreement that provides GOL with compensation and flexibility to implement its dynamic fleet requirements to match supply with demand. While the details of the agreement are confidential, it includes cash compensation and the termination of 34 orders, reducing the Company's remaining firm orders for 737 MAX aircraft from 129 to 95 and increasing flexibility to meet GOL's future fleet needs.

15/04/2020

EMIRATES BECOMES FIRST AIRLINE TO CONDUCT ON-SITE RAPID COVID-19 TESTS FOR PASSENGERS

Emirates in coordination with Dubai Health Authority (DHA) will be introducing additional precautions. Passengers on today's flight to Tunisia were all tested for COVID-19 before departing from Dubai. Emirates is the first airline to conduct on-site rapid COVID-19 tests for passengers.

The quick blood test was conducted by the Dubai Health Authority (DHA) and results were available within 10 minutes. This test was conveniently done at the Group Check-in area of Dubai International Airport Terminal 3.

17/04/2020

ACI WORLD POLICY BRIEF LAYS OUT ROAD MAP FOR INDUSTRY RECOVERY FROM COVID-19

Airports Council International (ACI) World has today published a policy brief outlining a road map for the airport industry's recovery in response to the COVID-19 pandemic.

The Policy Brief – COVID-19: Relief Measures to Ensure the Survival of the Airport Industry – outlines exceptional measures to provide policy-makers with a comprehensive toolkit of solutions to ensure that the airport industry can be sustained through the crisis and lay the foundation for recovery.

The impact of COVID-19 on the airport sector has been profound. Passenger traffic is expected to decline by almost 40% and revenue is expected to contract by $77 billion (in US Dollars) in 2020. In order to alleviate this unprecedented impact, ACI World has issued the following six focused policy responses that should be implemented:

1. Protection of airport charges and revenues: as airports will need to ensure the continuity of basic services, alleviating the collection of airport charges through suspension or blanket discounts is an ill-advised response

►*cont'd*

17/04/2020

ACI WORLD POLICY BRIEF LAYS OUT ROAD MAP FOR INDUSTRY RECOVERY FROM COVID-19 *cont'nd*

2. Tax relief: urgent tax relief will provide much-needed financial oxygen to airports to ensure continuity of operations and safeguard airport jobs
3. Concession fee waiver: airport rents and concession fees should be waived or postponed in the form of a one-time measure for a defined period
4. Temporary suspension of slot usage requirements: airport slot usage requirements should be suspended, at global level, until 30 June 2020 with a reassessment of the situation based on data-driven evidence to follow
5. Continuity of air cargo operations: airports should continue levying charges on air cargo operations to maintain essential airside and cargo facilities.
6. Comprehensive financial relief: this should include wage subsidy schemes to allow continued operations and a rapid return to full operations. Grants and subsidies, secured financing, loans at preferential rates, and bank guarantees should be made available. Financial relief should be non-discriminatory and not benefit one actor at the expense of others in the aviation ecosystem.

AIRPORTS COUNCIL INTERNATIONAL

20/04/2020

ITF AND IATA: SUPPORT FROM GOVERNMENTS ESSENTIAL TO PROTECT JOBS AND PRESERVE AVIATION INDUSTRY

The International Transport Workers' Federation (ITF) and the International Air Transport Association (IATA) called for support from governments to the aviation industry, to protect jobs and ensure that air services can be maintained.

The economic situation facing the aviation industry is severe. Air passenger demand is down 80%. Airlines are facing a liquidity crisis which threatens the viability of 25 million jobs directly and indirectly dependent upon aviation, including jobs in the tourism and hospitality sectors. In a joint statement, ITF and IATA called for governments to:

- Ensure that the protection of health workers caring for those with COVID-19 is prioritized
- Coordinate carefully between each other and with industry to ensure harmonized and effective action to protect the safety of passengers and crew
- Provide immediate financial and regulatory support for airlines, in order to maintain the sustainability of terms and conditions for air transport workers
- Assist the industry to restart quickly by adapting regulations and lifting travel restrictions in a predictable and efficient manner

20/04/2020

US TREASURY FINALIZES AGREEMENTS WITH MAJOR AIRLINES, DISBURSES INITIAL PAYROLL SUPPORT PROGRAM PAYMENTS

The U.S. Department of the Treasury concluded Payroll Support Program agreements with Allegiant Air, American Airlines, Delta Air Lines, Southwest Airlines, Spirit Airlines, and United Airlines.

Alaska Airlines, Frontier Airlines, Hawaiian Airlines, JetBlue Airways, and SkyWest Airlines have also indicated that they plan to participate in the Payroll Support Program.

Together, these airlines represent nearly 95 percent of U.S. airline capacity. The agreements will support airline workers and help safeguard the strategically important aviation industry, while ensuring that taxpayers are appropriately compensated.

24/04/2020

THE AIR FRANCE-KLM GROUP AND AIR FRANCE SECURE FUNDING OF €7 BILLION TO HELP OVERCOME THE CRISIS AND PREPARE FOR THE FUTURE

Source: KLM

In its communication of 9 April 2020, the Air France-KLM Group stated that, given the major impact of the Covid-19 crisis, which will weigh heavily on its EBITDA, and despite the significant measures taken to preserve its liquidity, it predicted that in the absence of additional funding, a liquidity injection would be necessary in the third quarter of 2020.

The Air France-KLM Group, Air France and KLM therefore engaged in talks with the French and Dutch governments regarding the implementation of specific aid measures that would enable them to maintain their solvency. Following several weeks of discussions with the French state and banking institutions, the Air France-KLM Group and Air France were able to finalize the various components of a support mechanism dedicated to Air France on which principle agreements are being finalised:

This support mechanism is comprised of:

- A French state-backed loan of €4 billion granted by a syndicate of six banks to Air France-KLM and Air France. The French state is guaranteeing this loan up to 90%, and it has a maturity of 12 months, with two consecutive one-year extension options exercisable by Air France-KLM;
- A direct shareholder's loan of €3 billion from the French state to Air France-KLM with a maturity of four years, with two consecutive one-year extension options exercisable by Air France-KLM.

25/04/2020

BOEING TERMINATES AGREEMENT TO ESTABLISH JOINT VENTURES WITH EMBRAER

Boeing announced today that it has terminated its Master Transaction Agreement (MTA) with Embraer, under which the two companies sought to establish a new level of strategic partnership. The parties had planned to create a joint venture comprising Embraer's commercial aviation business and a second joint venture to develop new markets for the C-390 Millennium medium airlift and air mobility aircraft.

29/04/2020

ICAO COUNCIL ESTABLISHES COVID-19 AVIATION RECOVERY TASK FORCE

In response to the serious impacts being felt across the international civil aviation sector as a result of COVID-19, and the need for wide-ranging government and industry coordination to help reconnect the world, representatives from the 36 countries on the Governing Council of the UN International Civil Aviation Organization (ICAO) have established a new COVID-19 Aviation Recovery Task Force.

The aim of the new Council Task Force will be to identify and recommend strategic priorities and policies for States and industry operators.

It will leverage all available government and industry data toward solutions to the immediate challenges being felt sector-wide, and the priorities to be addressed to reboot the network for a post-COVID world, and make it more resilient and responsive in the process.

30/04/2020

ACI AND IATA CALL FOR URGENT FINANCIAL ASSISTANCE TO PROTECT JOBS AND OPERATIONS

Airports Council International (ACI) World and the International Air Transport Association (IATA) have today come together to call for governments to quickly grant financial relief to assist airport operators and airlines during the unprecedented COVID-19 crisis and support the essential connectivity the industry will provide for economic recovery.

The industry is united with governments around the world in efforts to stop the spread of the virus, and, in the face of massive government imposed travel restrictions, the industry is doing all it can to maintain air cargo operations vital to supporting global supply chains, including medical shipments critical to fighting COVID-19.

The economic impact of these measures on all involved in the global air transport industry has been severe.

With passenger demand plummeting to unprecedented levels, revenues are falling beyond the ability of even the most extreme cost-cutting measures to mitigate. Airports and airlines continue to face a financial liquidity crisis. The current state of the global air transport industry risks the loss of millions of jobs.

The aviation industry supports 65.5 million jobs around the world, including 10.5 million people employed at airports and by airlines, and supports $2.7 trillion in world economic activity.

As the COVID-19 pandemic continues to unfold, airports and airlines around the world are engaged in a battle to sustain essential operations and to preserve jobs. ACI and IATA are calling for urgent balanced support to the industry via:

- Taxation relief, including alleviation of payroll taxes, corporate taxes, concession fees or other government incomes from the industry
- Loans, loan guarantees or direct support to maintain financial liquidity across the aviation ecosystem.

30/04/2020

1.5 BILLION FEWER INTERNATIONAL AIR TRAVELLERS THIS YEAR ACCORDING TO LATEST ICAO FORECAST

ICAO issued its first complete 2020 air passenger forecast today, revealing that airlines may be faced with 1.5 billion fewer international air travellers this year. In parallel, international seat capacity could drop by almost three-quarters, resulting in a 273 billion dollar loss compared to previously expected gross operating revenues.

30/04/2020

LEADING U.S. AIRLINES BEGIN REQUIRING FACE COVERINGS FOR CUSTOMER-FACING EMPLOYEES AND PASSENGERS

Today, Airlines for America (A4A), the industry trade organization for the leading U.S. airlines, announced that its member passenger carriers will be voluntarily requiring that customer-facing employees and passengers wear a cloth face covering over their nose and mouth throughout the journey — during check-in, boarding, in-flight and deplaning. Carriers are working to implement this policy as quickly as possible. The safety and wellbeing of all passengers is the top priority of U.S. airlines. The requirement to wear a cloth face covering during air travel is just one of the ways carriers are working to protect passengers and employees throughout this crisis. A4A's member airlines all meet or exceed CDC guidance and have implemented intensive cleaning protocols, in some cases to include electrostatic cleaning and fogging procedures. Carriers are working around the clock to sanitize cockpits, cabins and key touchpoints — like tray tables, arm rests, seatbelts, buttons, vents, handles and lavatories — with CDC-approved disinfectants.

4/05/2020

IATA / UPU WARN OF AIR CAPACITY SHORTAGE

The International Air Transport Association (IATA), and the Universal Postal Union (UPU) warned that air capacity for postal services is insufficient and urged governments to do more to support the movement of mail by air during the COVID-19 crisis.

Owing to the drastic 95% reduction in passenger flights, which are typically used to transport mail, and a 25-30% increase in demand for e-commerce as customers and businesses resort to online purchasing in response to social distancing restrictions, postal administrations are facing a challenge in sending and delivering international mail, in particular, cross-continental mail.

IATA and UPU are calling on governments to facilitate the flexibility that airlines need to meet this critical demand by removing border blockages to ensure trade flows continue, avoiding unnecessary regulations and fast tracking the issuance of permits for chartered operations. Additionally, ensuring adequately trained staff are available to process and clear the mail upon arrival is essential.

6/05/2020

ICAO ISSUES NEW GUIDANCE ON COVID-19 AVIATION SAFETY RISKS

ICAO has developed a new publication aimed at helping countries to address the aviation safety risks arising due to the global effects of the COVID-19 pandemic.

Produced specifically for national aviation regulators and civil aviation authorities (CAAs), the new Handbook for CAAs on the Management of Aviation Safety Risks related to COVID-19 (ICAO Doc 10144) was developed with the support of aviation experts serving on the ICAO Safety Management Panel. An ICAO State letter will be issued to encourage Member States to take advantage of this new handbook.

11/05/2020

ALTA ANNOUNCES THE APPOINTMENT OF EXECUTIVE DIRECTOR & CEO

12/05/2020

ACI WORLD GOVERNING BOARD CALLS FOR URGENT COVID-19 INDUSTRY RELIEF

Airports Council International (ACI) World Governing Board has called for urgent relief measures for airports to assist in dealing with the impact of the COVID-19 pandemic and also urged a globally coordinated programme of measures to aid in a balanced recovery for the aviation industry.

The resolution passed by the board calls for coordinated industry engagement between States, regulatory authorities, and all aviation stakeholders, to promote an internationally recognised framework for a sound, seamless and sustainable recovery.

The resolution also advocates for recovery measures with a focus on ensuring that the approach on health restrictions and mutual recognition from regulators is coordinated, proportionate, and practical. ACI World calls for the following recovery measures:

1. Industry engagement with international, national, and regional health authorities to develop consistent and effective protocols for travelers, ensuring that any new measures are practical and based on medical evidence
2. Risk-based approaches that take a risk-based approach to travel restrictions and new process requirements
3. Recovery best-practices which incorporate short and long-term requirements for health and hygiene, and amended passenger processes to facilitate the return to normal operation
4. Protecting airport staff by ensuring that they are part of the solution, are adequately protected, and can support a return to normal business
5. Effective communication with stakeholders and travelers through all channels to manage the expectations of passengers, build consumer confidence, minimize the impact on customer experience., and ensure efficient operation
6. Flexible approach that takes an incremental and flexible approach to requirements with regular reviews of initial measures in response to changing circumstances
7. Evaluating consumer confidence by ensuring that measures implemented at airports are based on changing passenger profiles and expectations with regular monitoring and benchmarking
8. Focus on sustainability which recognizes the continued importance of climate action to support sustainable airport development for the longer term
9. Stakeholder engagement to ensure ICAO recognizes its pivotal role to coordinate the recovery/ re-start protocols among States.

13/05/2020

TOURISM AND TRANSPORT: COMMISSION'S GUIDANCE ON HOW TO SAFELY RESUME TRAVEL AND REBOOT EUROPE'S TOURISM IN 2020 AND BEYOND

Today, the Commission presents a package of guidelines and recommendations to help Member States gradually lift travel restrictions and allow tourism businesses to reopen, after months of lockdown, while respecting necessary health precautions.

The Commission's guidance aims to offer people the chance to get some well-needed rest, relaxation and fresh air. As soon as the health situation allows, people should be able to catch up with friends and family, in their own EU country or across borders, with all the safety and precautionary measures needed in place.

The package also aims to help the EU tourism sector recover from the pandemic, by supporting businesses and ensuring that Europe continues to be the number one destination for visitors.

The Commission's Tourism and Transport package includes:

- An overall strategy towards recovery in 2020 and beyond;
- A common approach to restoring free movement and lifting restrictions at EU internal borders in a gradual and coordinated way;
- A framework to support the gradual re-establishment of transport whilst ensuring the safety of passengers and personnel;
- A recommendation which aims to make travel vouchers an attractive alternative to cash reimbursement for consumers;
- Criteria for restoring tourism activities safely and gradually and for developing health protocols for hospitality establishments such as hotels.

19/05/2020

IATA BOARD DECLARES PRINCIPLES FOR INDUSTRY RE-START

The International Air Transport Association (IATA) announced a commitment by the airline CEOs on its Board of Governors to five principles for re-connecting the world by air transport.

These principles are:

1. Aviation will always put safety and security first: Airlines commit to work with our partners in governments, institutions and across the industry to:
   - Implement a science-based biosecurity regime that will keep our passengers and crew safe while enabling efficient operations.
   - Ensure that aviation is not a meaningful source for the spread of communicable diseases, including COVID-19.
2. Aviation will respond flexibly as the crisis and science evolve: Airlines commit to work with our partners in governments, institutions and across the industry to:
   - Utilize new science and technology as it becomes available, for example, reliable, scalable and efficient solutions for COVID-19 testing or immunity passports.
   - Develop a predictable and effective approach to managing any future border closures or mobility restrictions.
   - Ensure that measures are scientifically supported, economically sustainable, operationally viable, continuously reviewed, and removed/replaced when no longer necessary.
3. Aviation will be a key driver of the economic recovery: Airlines commit to work with our partners in governments, institutions and across the industry to:
   - Re-establish capacity that can meet the demands of the economic recovery as quickly as possible.
   - Ensure that affordable air transport will be available in the post-pandemic period.
4. Aviation will meet its environment targets: Airlines commit to work with our partners in governments, institutions and across the industry to:
   - Achieve our long-term goal of cutting net carbon emissions to half of 2005 levels by 2050.
   - Successfully implement the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).
5. Aviation will operate to global standards which are harmonized and mutually recognized by governments: Airlines commit to work with our partners in governments, institutions and across the industry to:
   - Establish the global standards necessary for an effective re-start of aviation, particularly drawing on strong partnerships with the International Civil Aviation Organization (ICAO) and the World Health Organization (WHO).
   - Ensure that agreed measures are effectively implemented and mutually recognized by governments.

19/05/2020

ACI REVEALS TOP 20 AIRPORTS FOR PASSENGER TRAFFIC, CARGO, AND AIRCRAFT MOVEMENTS

Airports Council International (ACI) World has today revealed its preliminary world airport traffic rankings covering passenger traffic, cargo volumes, and aircraft movements for 2019 combined with a glimpse of 2020 data which shows the dramatic impact of COVID-19 on airports in the first quarter. Passenger traffic at the world's top 20 busiest airports grew by 1.7% in 2019. With more than 1.5 billion passengers passing through their terminals, this group of 20 represented 17% of global passenger traffic.

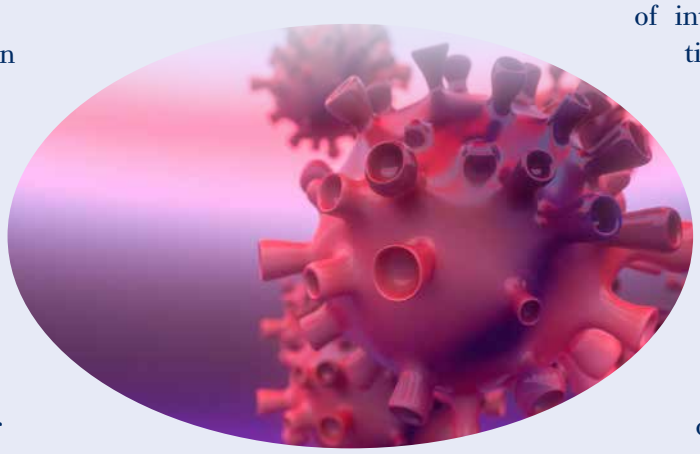
The ongoing COVID-19 crisis, however, has brought airports around the world to a virtual standstill, resulting in airport traffic and revenue losses across all regions. ACI World now estimates a reduction of more than 4.6 billion passengers and more than US$97 billion in revenue for 2020.

20/05/2020

ACI AND IATA OUTLINE ROADMAP FOR AVIATION INDUSTRY RESTART

Airports Council International (ACI) World and the International Air Transport Association (IATA) have called on governments to ensure any new measures introduced for airports and airlines in the wake of COVID-19 are supported by scientific evidence and are consistent across the world.

The aviation sector has been brought to a standstill and a balanced and effective restart and recovery depends on collaboration among the key participants in the global aviation ecosystem. ACI and IATA have jointly issued a paper laying out a pathway for restarting the aviation industry - Safely Restarting Aviation - ACI and IATA Joint Approach. Airlines and airports have cooperated to build a roadmap for resuming operations which reassures the travelling public that health and safety remain the overall priorities. The joint approach proposes a layered approach of measures across the entire passenger journey to minimize the risk of transmission of COVID-19 at airports and onboard aircraft, and to prevent aviation becoming a meaningful source of international re-infection. Such measures should be globally consistent and subject to continued review, improvement, and removal when no longer required, to ensure an even recovery.



20/05/2020

EASA/ECDC ISSUE JOINT GUIDELINES TO ASSURE HEALTH SAFETY IN AIR TRAVEL DESPITE COVID-19 PANDEMIC

The European Union Aviation Safety Agency (EASA) and European Centre for Disease Prevention and Control (ECDC) issued a joint document defining measures to assure the health safety of air travellers and aviation personnel once airlines resume regular flight schedules following the severe disruption caused by COVID-19.

The guidelines place paramount importance on health safety at every stage of the end-to-end passenger journey. Recognising that airports, airlines and aircraft are different, it takes a pragmatic approach in implementation – highlighting and giving guidance on the ways in which individual locations and situations can best be re-engineered to meet the new health safety standards.

Some overarching principles apply throughout: observe physical distancing wherever possible, wear a medical face mask to protect other passengers, and practice scrupulous and frequent hand hygiene. Air passengers and general population have to be assured that filtered air on airplanes is safer and cleaner than many of us breathe on the ground.

EASA
European Union Aviation Safety Agency

ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

26/05/2020

ICAO, ILO, AND IMO ISSUE JOINT CALL TO WORLD GOVERNMENTS ON NEED FOR 'KEY WORKER' DESIGNATIONS FOR ESSENTIAL AIR AND SEA PERSONNEL

ICAO joined the International Labour Organization (ILO) and the International Maritime Organization (IMO) today in issuing a new Joint Statement on the need to ensure 'key worker' designations for the millions of skilled personnel now maintaining essential global air and sea trade capacities.

The call to world governments comes as COVID-19 restrictions and guidelines continue to curtail travel and restrict border movements, ports and airports are being closed and ships and aircraft are being denied entry, and entire transport hubs are being affected.

The UN agencies are encouraging States to ensure the 'key worker' designation for seafarers, marine personnel, fishing vessel personnel, offshore energy sector personnel, aviation personnel, air cargo supply chain personnel, and airport and port services personnel.

27/05/2020

BOEING RESUMES 737 MAX PRODUCTION

Boeing has resumed production of the 737 MAX at the company's Renton, Washington factory. The 737 program began building airplanes at a low rate as it implements more than a dozen initiatives focused on enhancing workplace safety and product quality.

30/05/2020

AGREEMENT ON LUFTHANSA'S STABILIZATION PACKAGE

At its meeting today, the Lufthansa Executive Board decided to accept the commitments offered by Germany to the EU Commission for the stabilization package negotiated with the Economic Stabilization Fund (WSF) of the Federal Republic of Germany.

1/06/2020

ICAO COUNCIL ADOPTS NEW COVID-19 AVIATION RECOVERY 'TAKE OFF' GUIDELINES TO RECONNECT THE WORLD

The ICAO Council adopted a new report and recommendations today aimed at restarting the international air transport system and aligning its global recovery.

The COVID-19 report and guidelines were produced by the Council's Aviation Recovery Task Force (CART). They were developed through broad-based consultations with countries and regional organizations, and with important advice from the World Health Organization and key aviation industry groups including the International Air Transport Association (IATA), Airports Council International (ACI World), the Civil Air Navigation Services Organisation (CANSO), and the International Coordinating Council of Aerospace Industries Associations (ICCAIA).

2/06/2020

EUROPEAN COMMISSION ADOPTS NEW EU AIR SAFETY LIST

The European Commission today updated the EU Air Safety List, the list of airlines that are subject to an operating ban or operational restrictions within the European Union as they do not meet international safety standards. The Commission wishes to ensure the highest level of air safety for all passengers travelling in the European Union. Following today's update, all airlines certified in Armenia have been added to the list, after further assessment of the country's safety oversight capabilities. This decision follows the hearings of the Armenian Civil Aviation Committee (CAC) and six Armenian air carriers. In addition, the list of air carriers certified in Congo (Brazzaville), Democratic Republic of Congo, Kyrgyzstan, Libya, Nepal, and Sierra Leone has been reviewed and amended, with new carriers from these countries added, and carriers which do not exist any longer removed.

4/06/2020

FIRST COMPANIES SIGN UP TO EASA PROGRAMME TO MONITOR COVID-19 OPERATIONS IN PRACTICE

The first aviation companies have signed up to the European Union Aviation Safety Agency's (EASA) charter for the return to normal operations under COVID-19, pledging to work with their national authorities to put measures in place to support health safety – and to report back on their experiences to help other organisations with their real-life implementations. The first mover group comprises seven airport operators – operating major airports in Belgium, France, Germany, Greece, Spain and other locations – and three airlines – Aegean Airlines, easyJet and Wizz Air.

8/06/2020

SINGAPORE AIRLINES SECURES S$10 BILLION IN FRESH LIQUIDITY

Singapore Airlines (SIA) announced today that the Company has raised S$10 billion of liquidity through its recent Rights Issue, as well as a mix of secured and unsecured credit facilities. This puts SIA on a steady footing as it tackles the challenges posed by the global Covid-19 outbreak.

9/06/2020

CATHAY PACIFIC ANNOUNCES HK$39BN IN RECAPITALISATION FINANCING

Cathay Pacific today announced a recapitalisation plan that will help it maintain its competitiveness and operations, while continuing its commitments to Hong Kong as an international aviation, financial and commercial hub.

This three-part plan is designed to provide Cathay Pacific with sufficient funds to withstand the industry-wide downturn, and a stable financial platform from which it will be able to conduct the wholesale review of operations required to transform its business to reflect the new global travel market dynamics.

10/06/2020

EASA CERTIFIES ELECTRIC AIRCRAFT, FIRST TYPE CERTIFICATION FOR FULLY ELECTRIC PLANE WORLD-WIDE

The European Union Aviation Safety Agency announced the certification of an electric airplane, the Pipistrel Velis Electro, the first type certification world-wide of a fully electric aircraft and an important milestone in the quest for environmentally sustainable aviation.

11/06/2020

IATA INTERACTIVE MAP CIVES TRAVELERS LATEST COVID-19 RESTRICTIONS WITH REAL-TIME ALERTS AVAILABLE

The International Air Transport Association (IATA) introduced a free online interactive world map to provide travelers with the latest COVID-19 entry regulations by country. The map relies on IATA's Timatic database which contains comprehensive information on documentation required for international travel. To keep pace with the dynamic situation with respect to COVID-19, Timatic is updated more than 200 times per day to provide accurate travel restrictions specific to the current pandemic, based on one's citizenship and country of residence.

11/06/2020

EUROPEAN COMMISSION RECOMMENDS PARTIAL AND GRADUAL LIFTING OF TRAVEL RESTRICTIONS TO THE EU AFTER 30 JUNE, BASED ON COMMON COORDINATED APPROACH

Today the Commission recommends to Schengen Member States and Schengen Associated States to lift internal border controls by 15 June 2020 and to prolong the temporary restriction on non-essential travel into the EU until 30 June 2020; and sets out an approach to progressively lifting the restriction afterwards.

Given that the health situation in certain third countries remains critical, the Commission does not propose a general lifting of the travel restriction at this stage. The restriction should be lifted for countries selected together by Member States, based on a set of principles and objective criteria including the health situation, the ability to apply containment measures during travel, and reciprocity considerations, taking into account data from relevant sources such as ECDC and WHO.

For countries towards which the restriction remains in place, the Commission proposes to enlarge the categories of permitted travellers to include, for instance, international students. The Commission is also issuing guidance to Member States to ensure that the resumption of visa operations abroad is well coordinated with the gradual lifting of the travel restrictions.

12/06/2020

CANSO PROPOSES AVIATION CRISIS RECOVERY PLAN FOR EUROPE

The aviation sector is faced with an unprecedented crisis which has had a devastating impact on revenues and put the industry's collective survival into question.

With traffic levels in Europe at around 15% of what they were last year, the Civil Air Navigation Services Organisation (CANSO) is calling for a solution to the financial burden of the crisis caused by the decline in air traffic that will work for the whole aviation sector – airlines, airports and Air Navigation Service Providers (ANSPs).

CANSO therefore calls for a European, industry-wide recovery plan to get planes flying again. This should be based on two pillars.

1. Financial support from the EU for the whole aviation sector - CANSO calls on the EU to provide whatever financial support is needed to get ANSPs, airlines and airports through the crisis period. This should be done in a holistic way which does not favour one branch of aviation over another and is potentially accessible to all

2. A temporary revision of the EU Performance and Charging Scheme - Air traffic control services fees are determined by the EU's Performance and Charging Scheme, which sets performance targets for ANSPs and regulates how they are paid by airlines. It is now under severe strain due to the drastic fall in traffic. CANSO therefore calls for a temporary solution that works for both the ANSPs and the airlines until traffic recovers to levels that make the Scheme sustainable again. Airlines should remain legally liable for payment of fees for the duration of this crisis, just as ANSPs should remain legally liable to provide a service, EU support is required to cover the gap between what the airlines can afford to pay and what they owe the ANSPs for their services.

canso
civil air navigation services organisation

15/06/2020

TIACA ACCELERATES ITS TRANSFORMATION TO BETTER MEET ITS MEMBERS' NEEDS

Building on the momentum from its last Executive Summit and considering the feedback from members, The International Air Cargo Association (TIACA) announces its plan to speed-up its transformation program.

TIACA's transformation journey started in 2018 with a primary objective to make the Association financially sustainable and strong enough to take up the challenges requested and needed by its members in the long term. The second transformation priority is to adapt TIACA's agenda and focus to the new challenges faced by the industry.

TIACA's Board of Directors has unanimously voted in favour of the plan to accelerate the move to the "new TIACA". The goal of this final stage of TIACA's transformation is to make the Association fit for its newly redefined purpose:

- The Association has mandated the consulting firm Change Horizon to deliver its transformation program by the end of August 2020 with a revised governance structure and a fitter organizational set-up established.
- As part of the change, the role of the Secretary General will evolve. TIACA needs a Director General accountable for the organization's strategy, delivery model, team, financials. Today, this role is more limited and vaguely split between the Chairman of the Board and the Secretary General and it leads to inefficiencies. The new TIACA needs to be more agile and responsive to the market's needs.
- Vladimir Zubkov will continue supporting the Association, pursuing the work with ICAO and supporting Industry Affairs and Advocacy efforts.
- During the transition phase, Celine Hourcade will act as the Transition Director of TIACA to ensure business continuity until the future Director General of TIACA is appointed.

18/06/2020

IATA LAUNCHES AVIATION SECURITY INTELLIGENCE PORTAL

The International Air Transport Association (IATA) launched the Security Risk Intelligence Portal (SRIP)—an incident reporting tool to help airlines mitigate and manage security risks. The portal also includes the latest state and airport restrictions and requirements imposed as a result of the COVID-19 crisis.

SRIP was developed to improve real-time information-sharing among airlines, airports and air navigation service providers (ANSPs). Information shared by airlines will be augmented by open-source data (notices, warnings, bulletins, prohibitions, media reports) to provide a comprehensive view of security, biosafety and operational incidents in the vicinity of airports. This will enable individual airlines to make well-informed, real-time and risk-based operational decisions to manage security threats.

22

EUROPEAN COMMISSION SIGNS AVIATION AGREEMENT WITH JAPAN

The European Commission and Japan today signed an agreement on civil aviation safety, which will further boost the EU's already strong cooperation with Japan and reinforce the competitiveness of the EU's aviation industry.

One and a half years after the EU and Japan's Economic Partnership Agreement entered into force and the implementation of the Strategic Partnership Agreement started, today's signature shows the mutual trust and commitment to deepen our strategic partnership. Common rules will facilitate cooperation of European and Japanese companies and decrease the administrative burden for authorities, creating better opportunities for investment and strengthening economic prosperity and growth.

This bilateral civil aviation safety agreement (BASA) will support EU manufacturers of aeronautical products to increase their trade and market share in the Japanese market. It will therefore play an important role in the recovery of the sector from the current crisis.

24/06/2020

IATA PROPOSES ALTERNATIVES TO QUARANTINE

The International Air Transport Association (IATA) urged governments to avoid quarantine measures when re-opening their economies. IATA is promoting a layered approach of measures to reduce the risk of countries importing COVID-19 via air travel and to mitigate the possibility of transmission in cases where people may travel while unknowingly being infected.

IATA encourages a layering of bio-safety measures in two areas:

Reducing the risk of imported cases via travelers

- Discouraging symptomatic passengers from traveling
- Public health risk mitigation measures
- COVID-19 testing for travelers from countries perceived to be “higher-risk”

Mitigating Risk in Cases Where an Infected Person Does Travel

- Reducing the risk of transmission during the air travel journey
- Contact tracing
- Reducing risk of transmission at destination

25/06/2020

EUROPEAN UNION SIGNS AVIATION AGREEMENT WITH THE REPUBLIC OF KOREA

Today, the European Union and the Republic of Korea have signed a Horizontal Aviation Agreement. This Agreement allows any EU airline to fly to the Republic of Korea from each EU Member State, which has a bilateral air services agreement with the Republic of Korea. Twenty-two Member States have such bilateral air services agreements with the Republic of Korea. Traditionally, in these bilateral air services agreements, only airlines owned and controlled by a given Member State or its nationals may fly between that Member State and a third country. The conclusion of the Horizontal Agreement offers important opportunities to other EU airlines, and is therefore beneficial to airlines on both sides.

25/06/2020

EASA PROGRAMME TO MONITOR COVID-19 OPERATIONS GAINS TRACTION, ADDING MAJOR AIRLINES AND ISTANBUL HUB

Istanbul Airport, Air France, Iberia, Scandinavian Airlines and Turkish Airlines are among the latest aviation companies to sign up and commit to implementing EASA/ECDC guidelines for safe travel in the light of COVID-19, joining a growing network of airport operators and airlines putting measures in place to offer harmonised safe travel across Europe and beyond.

In signing the European Union Aviation Safety Agency’s (EASA) Charterfor the return to normal operations under COVID-19, airports and airlines pledge to work with

►*cont’d*

25/06/2020

EASA PROGRAMME TO MONITOR COVID-19 OPERATIONS GAINS TRACTION, ADDING MAJOR AIRLINES AND ISTANBUL HUB *cont'd*

their national authorities take the steps required to support health safety – and to report back on their experiences to help other organisations with their real-life implementations.

These measures for aviation are outlined in guidelines developed by EASA and the European Centre for Disease Prevention and Control (ECDC) on request of the European Commission. The COVID-19 Aviation Safety Protocol is based on current scientific information about the spread of COVID-19 and the expert opinion of the two Agencies.

25/06/2020

ATM INDUSTRY IMPLEMENTS EXTRAORDINARY MEASURES TO TACKLE FINANCIAL CRISIS

Air navigation service providers (ANSPs) across Europe have taken extraordinary measures to reduce their costs in light of the COVID-19 crisis according to high level data collected by the Civil Air Navigation Services Organisation (CANSO).

COVID-19 has had a devastating impact on the entire aviation industry. With traffic levels at a mere 15% of what they were this time last year, ANSPs have had to contend with a dramatic decline in revenues, exacerbated in Europe by the deferral of ATC charges by the airlines. At the same time, ANSPs are mandated to provide a full service to keep the skies open and safe, at a time of a public health emergency.

Despite their ongoing operational challenges, ANSPs have introduced emergency measures to tackle their revenue shortfall including a reduction in staff costs of 11% on average, a 25% cut to executive pay salaries, and in nations where it's possible about 20% of staff have been furloughed for either a portion of their work time or a defined period of time. Negotiations in many ANSPs are underway with staff representatives to introduce further measures.

25/06/2020

AVIATION EMISSIONS: EU CONFIRMS ITS PARTICIPATION IN THE CORSIA VOLUNTARY PHASE FROM 2021 AND CHOOSES MORE AMBITIOUS OPTION TO CALCULATE ITS OFFSETTING REQUIREMENTS

The EU will take part in the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) from the start of its voluntary phase on 1 January 2021. Today, the Council adopted a decision sealing this EU position, which member states will have to notify to the International Civil Aviation Organisation (ICAO) by 30 June 2020. Today's decision also lays down the EU position on the method to be used for calculating aeroplane operators' offsetting requirements during the CORSIA pilot phase 2021-2023. According to the EU position, the calculations should be based on the emissions during each of those years (2021, 2022 and 2023). This option is likely to lead to higher offsetting requirements and therefore be better for the environment than the other option available, which is to base the calculations on the 2020 emissions. Here again, ICAO members must notify the option chosen by the end of June 2020.

29/06/2020

AIRBUS CONCLUDES ATTOL WITH FULLY AUTONOMOUS FLIGHT TESTS

Following an extensive two-year flight test programme, Airbus has successfully concluded its Autonomous Taxi, Take-Off and Landing (ATTOL) project.

In completing this project, Airbus has achieved autonomous taxiing, take-off and landing of a commercial aircraft through fully automatic vision-based flight tests using on-board image recognition technology - a world-first in aviation.

In total, over 500 test flights were conducted. Approximately 450 of those flights were dedicated to gathering raw video data, to support and fine tune algorithms, while a series of six test flights, each one including five take-offs and landings per run, were used to test autonomous flight capabilities.

Source: Airbus

30/06/2020

ICAO COUNCIL AGREES TO THE SAFEGUARD ADJUSTMENT FOR CORSIA IN LIGHT OF COVID-19 PANDEMIC

The Council of ICAO today agreed to provide a clear safeguard, in light of the COVID-19 pandemic, to the CORSIA – Carbon Offsetting and Reduction Scheme for International Aviation, the first ever global market-based measure being applied for any industry sector.

Hermes Report Committee met online to prepare the report for the 2020 recommendations

The committee led by Professor Martin Dresner, President, ATRS, met online in order to prepare the 2020 report on the topic of Digitalization, AI in Aviation and the Human Factor.

The members of the committee were:

Professor Martin Dresner, President, ATRS – Chair

Robert Deillon, Vice President, Hermes – Air Transport Organisation

Professor Triant Flouris, Executive Director, The American College of Greece

Professor Andreas Papatheodorou, Journal of Air Transport Studies

This year Hermes received 13 position papers from the following organisations:

-A4A
-AACO
-AASA
-ACAO
-ACI
-AFRAA
-ALTA
-ERA
-EUROCONTROL
-EUROPEAN COMMISSION
-IATA
-IFATSEA
-JAA TO

HERMES
AIR TRANSPORT ORGANISATION

2020

HERMES AGM & LEADERS FORUM

Air Transport Re-imagined and Re-invented

Thursday 30 April · 2020

PROGRAM Air Transport Re-imagined and Re-invented

15:00 CET WELCOME ADDRESS

Dr Kostas Iatrou, *Director General, Hermes – Air Transport Organisation*

15:05 CET KEYNOTE ADRESSES

- Jeff Poole, *President, Hermes – Air Transport Organisation*
- Salvatore Sciacchitano, *President of the Council, ICAO*
- Alexandre de Juniac, *Director General & CEO, IATA*
- Angela Gittens, *Director General, ACI & Board Member, Hermes – Air Transport Organisation*
- Simon Hocquard, *Director General, CANSO*
- Henrik Hololei, *DG MOVE, European Commission & Board Member, Hermes – Air Transport Organisation*

15:40 CET 2020 HERMES AGM

- **Annual Report:** *Dr Kostas Iatrou, Director General, Hermes – Air Transport Organisation*
- **Election of the Directors for 2020–2021**
- **Honorary Member:** *Salvatore Sciacchitano, President of the ICAO Council, presented by Jeff Poole, President, Hermes – Air Transport Organisation*
- **Presentation of the 2020 Hermes Report Committee:** *Professor Martin Dresner, Chair*
- **Financial statements:** *Robert Deillon, VP & Treasurer, Hermes – Air Transport Organisation*
- **Appointment of the auditor**

16:00 CET PANEL DISCUSSION

Moderator: Eamonn Brennan, *Director General, EUROCONTROL*

- Abdul Wahab Teffaha, *Secretary General, AACO*
- Abdérahmane Berthe, *Secretary General, AFRAA*
- Luis Felipe de Oliveira, *Executive Director, ALTA & Board Member, Hermes – Air Transport Organisation*
- Montserrat Barriga, *Director General, ERA*

16:30 CET CONCLUSION

HERMES
AIR TRANSPORT ORGANISATION

2020 Hermes Leaders Forum
Air Transport Re-imagined and Re-invented
Report

Dr Kostas Iatrou, Director General of Hermes in welcome address said: "For the first time in its history, air transport is almost at a complete halt; the industry faces an unprecedented situation and unforeseeable challenges. As Hermes represents the decision-makers of our industry, we have taken the initiative to host this year Leaders Forum with the conference theme being: Air Transport Re-imagined and Re-invented. We have to restart this business once there is a relaxation of the measures implemented by the different countries. The air transport 2.0 has to be more resilient, less vulnerable and better prepared for the next crisis."

Jeff Poole, President of Hermes, in his keynote address, pointed out that the title of the meeting is very appropriate as nothing will be the same again and the industry has really to "reinvent and re-imagine" itself. He stated that he has been chairing a task force of eight industry associations and four international organizations that meet to align their messages and advocacy on the crisis. There are consistent messages on how the business is going to restart for the industry, to get into the recovery mode and all messages stress the need for liquidity, support to workers and businesses, removal of taxes and other financial burdens, more positive facilitation like the voucher issue. For the recovery so to be achieved, cooperation is vital within the private sector, between the private sector and the public sector and within the public sector (within each government and between governments0. The most important aspect will be the setting of new global standards and protocols that can help the business move on in a cost effective way without bureaucratic procedures and unnecessary burdens, We need to avoid the situation that arose after 9/11 when security measures were put into place without adequate consultation. He concluded by saying that Hermes has a unique role to play in the crisis and in the recovery and in the coming weeks the Board will come up with initiatives for the recovery and called the participants to submit any ideas they may have.

Salvatore Sciacchitano, President of the ICAO Council, started out by saying that perhaps the title of the Forum should be changed to "rescuing the industry" as the industry risks to go back by decades with huge consequences for the sector and the wider economy. He pointed out that this is not an "aviation crisis", there have been many aviation crises and the industry has managed to recover. After 9/11 the sector was able to react fast but this situation is different with more than half of the aviation grounded, with forecasts of 1.5 billion passengers being lost this year, and slow growth of passengers for 2021. There is a high risk of bankruptcy and there will certainly be nationalization of companies, which means that the industry will go back to what it was 40 years ago. ICAO is taking its role to support a safe, secure and sustainable system of transport but to support the development of transport is its role in normal times but these are exceptional times and now its role is to rescue aviation. And to do so "we need to work all together, this cannot be alone by ICAO, or by the industry by member states". ICAO is working on two different levels: one is a more operational one through task forces providing support the member states with cooperational initiatives with WTO. But something more substantial is needed. For this reason ICAO has set up a high level task force with the objective of producing a recovery plan and coming up with the first report by the end of May. The principle of the recovery plan is cooperation, communication, sharing of information as there are too many initiatives undertaken on a local level, on a regional level (e.g. Europe, Pacific, US) but communication requires a strong commitment and pragmatism. "We need an effective solution without bureaucratic formalities". The plan needs to be based on data, concrete evidence and expert advice to support decisions that have to be risk managed, which means mitigation of risk. The umbrella of ICAO provides the opportunity that such initiatives will be taken on majority resolutions. The first task for this group is to identify the sanitary minimum measures that should be undertaken to facilitate the restart of the industry. This will not be easy, it will be in cooperation with health authorities but it is the real priority.

Alexandre de Juniac, Director General & CEO, IATA, first stated that aviation is the most severely hit sector and the industry has managed to convince the public, media and governments of that. Aviation needs massive support from governments, plans have been announced everywhere but the key is the implementation, money has to flow into balance sheets, otherwise the industry will run out of cash. He stressed that the industry

has to work on the restart in the short term and that includes three elements: first, absolute need for collaboration with international organizations, within international organizations, collaboration within the industry with all partners, with governments and between governments, "it is easy to close unilaterally a country's borders but it is difficult to open them unilaterally if you want to restore connections, connectivity and traffic"; second is harmonization, the industry has to have common harmonised set of measures implemented everywhere for the restart, especially biosafety measures without adding complexity, obstacles that would be detrimental to airlines, airports and passengers. The third is consultation, everything should be done in consultation with the industry, governments and international organizations. On the mid-term perspective, he continued, traffic has to be examined by phases, on a domestic, regional, continental and international level and by quarters. He believes that by the end of the fourth quarter, traffic would be 50- 60% of the 2019 traffic, which is still pretty low. This means that global and complete recovery will last till the end of 2021 as a result also of the enormous impact on the economic recession. On two years ahead, there will be shrinking transport, the sector will be reduced, there will be bankruptcies, disappearance of airlines, and consolidation of airlines. There will probably be bigger companies in the form of consolidation with bigger airlines buying smaller ones, government-owned or partly government-owned airlines due to financial support and capital injection. One question is whether the low cost sector will be threatened due to various factors: social distancing on board, green constraints on aviation business that will be difficult for them to meet. But Mr De Juniac added that he is not worried about LCCs because on the long-term, there will be recovery. Surveys show that there is still strong appetite for travel even if people have to wait for some time. The impact on cost will remain important so it remains to be seen whether LCCs will disappear to come back or expand. Aviation will be greener because green constraints strong request by the public, governments and NGOs. A final point he raised is that there will not be a major change in the business model, the crisis is not due to a failure of the business model but to external factors and aviation is forbidden to fly. He concluded by saying that even if aviation goes through difficult times, the industry can be optimistic for the next 15-20 months.

Angela Gittens, Director General, ACI & Board Member, Hermes, started off by saying that the Greek word crisis comes from "krino", to separate, to pass judgement, to keep only what is worthwhile. As there is an opportunity in every crisis, she stressed the need to remember that as the industry reimagines what air transport can be. "Before recovering from the crisis, the industry needs first to survive it". From the economic point of view, the airports are among the most severely affected industries with forecasts estimating that airports globally will lose 36 billion in passenger traffic and 76 billion US dollars by the end of 2020, which is a decline by 45%. A drastic decline of such magnitude represents an existential threat for the industry as a whole. She said that aviation industry is an ecosystem where one needs the other. Airports, she continued, are especially challenged as they must continue to meet their capital expense obligations, have high fixed costs to maintain operative infrastructure components. ACI has been applying for exceptional measures to provide policy makers with a policy tool kit of solutions to sustain airports through the crisis and lay the foundations for recovery: these include the protection of airport revenues and charges, tax relief, concessionary fee waiver, temporary suspension of slot usage, the continuity of cargo operations and comprehensive financial relief. Such measures will ensure that financial assistance does not favour one part of the industry over another. She continued by saying that as the industry has the opportunity to build a more resilient sustainable industry, a business continuity in emergency preparedness of contingency plans so as to be better prepared to meet future crises at least those that are health related. She added that the industry will need to meet its other global crisis, the climate change, which should be an essential element of the recovery plan. This is an opportunity for the industry to reconsider normal business operations and processes including how to employ innovative technologies and solutions for new experience travel technologies such as solutions for truly autonomous touchless passenger self-processing throughout the journey. She stressed that the crisis will impact passenger expectations and satisfaction, therefore understanding what passengers want will be crucial to rebuild passenger trust. She concluded by saying that the industry has the opportunity to keep an eye on the wider trends that the COVID-19 pandemic will have on the world and more particularly on the labour market, on higher

education system as well as on the type of the skills that will be needed in a very different world. The industry leaders have to forecast how such changes will interact with those of our industries as it evolves and fight to get its share of talented labour.

Henrik Hololei, DG MOVE, European Commission & Board Member, Hermes, said that nobody knows how long this unprecedented crisis is going to be, when it is going to end and how the air transport is going to be re-imagined and re-invented afterwards. He stated that he does not believe in doomsday prophecies because air transport is a resilient industry that always bounces back even after the worst of crises. And the desire and yearn of people to travel, to connect, to move around the world is always there. This is one of the key challenges: to bring people back, to make sure that the travelling public are ensured that flying is safe continuously from both the technological and the sanitary point of view, that is to bring back the trust and confidence to the system. Aviation has managed to build the safest level, no other industry has that, and this is a good beacon when the industry is trying to achieve the same in relation to the health challenge. The sector has to work together, there can be winners or losers in the value chain, it is in nobody's interest to play one part of the value chain against another; if one loses and the other wins, the whole value chain loses. The sector has to present itself as one voice; "it has never been able to do so but if it cannot do it now, it will be almost impossible to do it in the future". Therefore, it is extremely important to have the airlines, the manufacturers, the airports, the ground handlers, the travel retailers, the lessors to have them along as they are part of the bigger value chain. If the industry wants travel and flying to get back to where it was it is absolutely necessary to preserve the infrastructure as well as to maintain the high quality and high level of jobs and the overall ecosystem, to have the framework in place when the opening is going to start. The first focus for now is to get the support, to get the access to financing, to the employment schemes. On top of that, the competitive environment, nationally, regionally and globally that has made aviation affordable must be maintained. This is now altered by the different state aid schemes where those states that have more policy space and financial possibilities are in a better position to support airlines and elements of aviation value network. From the point of view of competition the low-cost sector is needed because the low cost sector has been the main driving force of growth over the last decades and has brought a strong competitive element. The industry needs affordability and connectivity. Consolidation will happen and many airlines will exit and that is the downside of the crisis but at the same time as a result of this crisis there will be a more resilient aviation sector. The last point Mr Holelei dwelled on was the exit strategy to be initiated: one is restoring trust and confidence and the other to agree on principles that are not overly prescriptive from regulators and that leave some industry policy space for the industry to lay down itself certain parameters. The industry may lose the opportunity if the measures are not sufficiently balanced, have far too many complexities and layers. Social distancing is not possible on airplanes and if this is insisted on, planes are not going to fly. It is difficult because the industry is not alone, it has to do with health authorities both internal security and border authorities. Another essential element is the mutual recognition regionally and globally and ICAO, IATA, ACI are working on that. Regulators need to trust these international organizations and leave to them to work out the details and keep for themselves the duty to lay down the foundations of the right framework for this to happen. This is a dynamic not static system and it is needed so the industry needs to observe the situation and act accordingly. He concluded that he is optimistic about the sector, about the sector's ability to rebound but this depends on cooperation, right policies made by regulators and mostly on the trust and confidence of travelers.

Simon Hocquard, Director General of CANSO, started off by pointing out that air navigation keeps operating no matter what the number of airplanes, 70 or 7 or 700. A once thriving industry has been brought to its knees and it needs to adapt to the new situation. This situation is completely different from what it was a few years or months ago and this is particularly true for ATM. Before the pandemic, the biggest challenges facing the aviation industry were capacity, fragmentation, new space entrants and sustainability. Back in January 2020 there was a global shortage of air traffic controllers, lack of flexibility in the system, with the net results

being hot spots of delays and capacity crunches across the globe. With air travel traffic predicted to double by 2036, the concern for the industry was how to get enough air traffic controllers to deal with the ever-growing numbers of aircraft. While now the industry has to deal with a prolonged and unprecedented decrease in traffic numbers and for most organizations across the value chain the most pressing challenge is how to survive this crisis and the drastic drop in revenue it has triggered. CANSO continues to stress the important role of the critical national infrastructure and the contribution it can make to the global economic recovery. Another important element is the role CANSO it can play as it works across and with the entire aviation community to get the industry ready for the restart and make sure to match this crisis with the right-sized organizations and smart processes that will enable the industry to safely and efficiently deal with the increased traffic levels no matter whatever this may be. There other big challenge on CANSO's radar is fragmentation: ATM's infrastructure is composed of communication networks, surveillance capabilities, radars, satellites which are managed nationally as each country is controlling its own air space, which is highly inefficient and CANSO has worked to tackle this. He wondered whether the crisis will bring a change in perspective and more willingness to work across borders and he added technology will be key and CANSO is ready to work with all its members to shape the future ATM landscape. Another challenge is all the new space entrants such drones, space vehicles, weather balloons in the already crowded skies and this challenge is not mentioned at the moment. ATM systems have to support them to get airborne and keep them safely separated from the more established airspace users. To integrate new airspace with heritage air space is a complex problem and maybe the industry should seize this unexpected downturn in traffic to accelerate its thinking on the issue. The final challenge within the industry before the pandemic was sustainability. The pressure on the industry to reduce its impact will heighten when traffic picks up. As sustainability will be key in the social license of the industry, it should accelerate the changes and try to get a head start when the traffic returns to deliver real environmental benefits to tackle climate change. "It is vital that we stand strong as an industry to build a better future for aviation", "If any industry can survive, aviation can survive".

In Panel discussion the moderator Eamonn Brennan, Director General, EUROCONTROL, started off by saying that Europe has been severely impacted with 90% decrease in traffic, with airlines facing cash crises, so there will be significant airlines bail-outs and these moves may distort competition and this must be avoided as some airlines get state aid while others do not. "This is not a time to start cannibalizing each other….. we need to work together" The question he addressed to all panelists was "What needs to happen for the industry to recover from COVID-19?"

Abdul Wahab Teffaha, Secretary General, AACO, said that there are three things that scare him in the situation. First, the behaviour of governments in the issue of reopening the aviation sector; because of the alleged role of aviation in spreading the disease the measures will be so draconian that aviation will not be allowed to do what it does, connecting people. Second, the measures (for example, temperature taken), fear of being stranded, etc that will be implemented may dissuade people from travelling. Third, as it happens with most crises, people, societies and governments tend to retract into comfort zones, protectionism under the guise of health in all sectors of trade goods and services, aviation included. But in aviation geopolitical boundaries are irrelevant. In the long run he is optimistic because aviation is resilient, it is a force of good and because history does not go back and aviation is by now a staple of our livelihood

Abdérahmane Berthe, Secretary General, AFRAA, focused on three concerns: survival, recovery and the new standards implemented for COVID 19. For African Airlines, the major problem is the lack of liquidity because of the restrictions. All airlines have made appeals to their governments for support but as this is not only an aviation crisis but an economic crisis there is fear that aviation will come after the health system and economic rescue of small and medium enterprises. International financial institutions helping states need to think about airlines too because aviation is strongly needed in Africa and connectivity has always been a

challenge and needs improvement. Regulators need to harmonize measures so as to allow some exclusions such as staff and crew licensing, extension of certification, waiver of slot utilization rules for 2020 and 2021. African airlines need to put in place cash and cost containment measures, review budgets and business plans and reposition their fleet and network. Above all, African airlines need to collaborate. The real challenge is to get passengers' confidence back, therefore sanitization and distancing measures at most stages of the passengers' path will be critical and the industry needs to come up with a proposition of common standards for all the industry, not having each country adopting its own measures as it was done during the Ebola outbreak.

Luis Felipe de Oliveira, Executive Director, ALTA & Board Member, Hermes – Air Transport Organisation said that Latin American comes from 16 years of growth in a row but this will change completely. The area has a continental airspace and there are countries in the continents that absolutely need airlines. For example, a simple flight of 45 minutes could take 11 hours by bus, one can cross the Amazon only via airlines, while in other areas of the world aviation can be replaced by other means of transport. For this reason, harmonization of processes is very important for the restart. Each country decided unilaterally- Argentina banning all flights until September 1st- to close its borders and the measures affecting the passengers thus repatriation flights had to negotiated one by one because of the lack of harmonization. He congratulated ICAO on taking the leadership for the harmonization so that a common approach is taken to get aviation back on track. The region needs to work together always taking into account the disease development in the region but the only way to recover is through harmonization in processes. Another important problem he mentioned was the duration of the crisis and the consequent shortage of cash for the airlines, "it is different if you stay one month without flying to staying six months without flying". Without harmonization, aviation in Latin American will not rebound. Aviation needs coordinated actions not unilateral ones.

Montserrat Barriga, Director General, ERA, concentrated on the fact that in Europe everybody is bailing out large airlines such as Lufthansa, KLM and Air France and no one is interested in saving the smaller regional airlines that are important for connectivity. This may create competitive distortions and on two levels: between the member states, each state doing completely different things in a business that is international and at the member state level as the member states may decide to save one airline and not the other. This will be a huge distortion in the system. She stated that she is not against bail outs as the money is needed in the system but the money should be available to everyone in proportion to the business. She referred to the saying "Never let a serious crisis go to waste" and stated that this crisis must remind that nothing should be taken for granted: competition, the levels of connectivity, levels of consumer choice. This crisis may be the end of these. The industry must find opportunities to prove its resilience. She stressed that the element that needs to be restored above everything else is passenger confidence: "if there are no passengers, there is no aviation apart from cargo". The second element is for the aviation ecosystem is to cooperate and collaborate, for different business models to work together, which more than ever is vital for aviation to survive whether by merging or being more efficient, by getting into alliances, getting in partnerships with players in the supply chain to ensure that can keep operating. Collaboration with airports is essential as airlines will be subject to operational constraints. Such collaboration should also include technology, which will be key for survival, Airlines will need to bring their web sites, infrastructure and apps (app to monitor passenger's health) to a new level and this will need financial investment. At the same time this may add complexity to the customer experience and be detrimental to the customer confidence as there will be more procedures such as biometrics.

Eamonn Brennan summarized the overall message: "we need to stick together as aviation as a value chain is vital for the economy, we need common standards to recover and we need to build on the experience and make sure we do not take unilateral actions. That is why Hermes is essential to make sure that we collaborate".

HERMES
AIR TRANSPORT ORGANISATION

2020 Hermes AGM & Leaders Forum
Air Transport Re-imagined and Re-invented
2020 Hermes Report Committee

I'm speaking on behalf of the Hermes 2020 Report Committee, consisting of Andreas Papatheodorou, Robert Deillon, Triant Flouris, Jose Guedes Dias and myself. Our committee was tasked with developing recommendations on Digitalization, Artificial Intelligence in Aviation and the Human Factor. Our report is based on the contents of 14 position papers on this subject received from leading industry and governmental associations.

The briefs were submitted prior to the current crisis impacting the aviation industry. In the pre-coronavirus era, with strong growth and robust profits through much of the aviation industry, the concern was how to best use these new technologies to help the industry accommodate a doubling in capacity over the next 30 years. The governmental and industry associations felt that these technologies could help aviation in several ways:

- AI technology can be used in the maintenance field to predict possible failure of parts.
- AI can be used to improve the functioning of autonomous vehicles, such as ground handling equipment and drones.
- AI can be used to better control aircraft movements to increase efficiency and improve safety.
- Using the data generated by aircraft and their systems, smart algorithms can be used to detect hazardous behaviors.
- Digitalization can help develop a better understanding of the businesses, routes, costs and opportunities for improvement.
- Digitalization can help the aviation industry better understand traveler needs and to improve the passenger experience.
- Digital technologies can change the way training is delivered; for example, through the development of virtual reality devices.

However, there are considerable hurdles that must be overcome in the implementation of these technologies. These include:

- Developing and Implementing Standard Practices.
- Convincing governments to adopt the standards and enact enabling regulations.
- Allowing for the sharing of data but protecting the privacy of individuals.
- Paying for the implementation of the technologies, especially in developing countries.
- Developing and training the workforce needed to implement the technologies.

Based on the input from the trade and governmental associations, our Report Committee has the following recommendations to guide the implementation of these technologies:

- ICAO needs to take the lead in developing a roadmap for the implementation of AI and digital technologies in the industry.
- The implementation of industry standards can be best accomplished through industry associations. These industry associations should proceed concurrently with ICAO standards development. Concurrent development will help ensure that the standards are workable and will speed their development.
- Funding sources for technology implementation must be identified to ensure that aviation firms around the world can participate in these new technologies.
- Finally, training and development in these new technologies should be implemented immediately. The current downturn of the industry has idled thousands of industry employees. Now is an ideal time to engage in training and re-training for the future needs of the industry.

Professor Martin Dresner, Chair of the 2020 Hermes Report Committee

HERMES
AIR TRANSPORT ORGANISATION

2020 Hermes Leaders Forum
Air Transport Re-imagined and Re-invented
Conclusions

Aviation faces an unprecedented challenge recovering from the downturn due to COVID-19. The industry is projected to lose 1.5 billion passengers, compared to 2019 levels. Whereas a major challenge facing the industry at the start of 2020 was how to cope with a projected doubling of passenger demand over the next thirty years, the new challenge is how to keep the industry afloat while renewing the confidence of the general public in the safety of flying. The entire industry has suffered from the dramatic decline in aviation business, including firms at all levels of the supply chain. Aviation firms and organizations need to put aside their historic differences and work together to assert a common front in developing plans to restart and regenerate the industry.

Aviation has been among the hardest-hit industries from the coronavirus pandemic. As a result, governments should prioritize state support for the industry and its workers. However, this support has the potential to create distortions in the industry, with some firms receiving much greater support than others. Moreover, government support increases the potential of politically driven agendas, rather than economically driven or data-driven solutions. Governments and industry should work together to produce a recovery plan that is pragmatic and free from unnecessary bureaucracy, costs and operational burdens to provide a fair and equitable roadmap for renewed vitality.

Clearly, the industry brings great benefits to the world in terms of connectivity for individuals and businesses. However, the industry has also faced criticisms for its environmental record. As aviation recovers from this crisis, it faces a unique opportunity for reinvention. Aviation can use this downturn period and the recovery phase to introduce new environmental-friendly processes and train employees in technologies that will increase operating efficiencies while, at the same time, improving the customer experience. Although the current situation for aviation is bleak, aviation has always been resilient. With strong cooperation within the industry and between industry and governments, support from governments and the renewed confidence of the traveling public, the industry will recover and prosper.

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

THE AUTHENTIC SMILES

ATHENS
INTERNATIONAL AIRPORT
ELEFTHERIOS VENIZELOS

RECOMMENDATIONS

HERMES
AIR TRANSPORT ORGANISATION

2020

DIGITALIZATION, AI IN AVIATION & THE HUMAN FACTOR

Introduction

Prior to the recent downturn in the aviation business, global air traffic, which reached 8.8 billion passengers in 2018, was, according to IATA, expected to double by 2037. The challenge for aviation was viewed as managing this growth, while containing costs. The key was making better use of resources through efficiencies, while at the same time increasing sustainability, improving passenger experience, and maintaining safety and security. The digital transformation of the industry was seen as a key to achieving these goals. With the downturn in the industry, digitalization has become even more important, as reducing costs and achieving efficiencies is critical to industry participants as they seek to remain financially viable.

Today's technologies allow airlines, airports and other industry participants to operate in ways that were not possible up to just a few years ago, including the delivery of personalized and individualized services to millions of users. This can be accomplished because of the enormous amount of data that are available; data that are generated by aircraft systems, air traffic control, airport operating systems and stakeholders. These data, combined with algorithms that convert the data into usable information, represent enormous opportunities to the industry. Digitalization allows industry participants to improve the customer experience, while at the same time, increasing efficiencies and generating revenues. However, there are considerable challenges to realizing the benefits from digitalization.

Definition of AI and Digitalization

IATA defines digital transformation as *value creation through deconstruction of legacy processes and the reconstruction of these processes leveraging digital assets*. The goal of digitalization is to simplify tasks, improve efficiency and develop new services. A distinction is sometimes made between digitalization and digital transformation. Digitization implies the conversion of an analogue or manual process into an equivalent digital process, whereas digital transformation involves both the implementation of new technologies and the transformation of business operations. Whereas digitalization, by itself, may preserve existing forms and procedures, digital transformation can completely change the way business is conducted.

One way to achieve digital transformation is through artificial intelligence (AI). AI is the collection of technologies that allow machines to detect, understand, act and learn either on their own or by augmenting human learning. AI involves the development of algorithms that can be used to solve problems that have traditionally been dealt with by humans. AI integrates input devices (vision systems, audio, text inputting and other sensing systems) with algorithms to allow a machine to take 'intelligent' actions.

Uses of AI and Digitalization

The industry trade associations that contributed their briefs to Hermes outlined many uses for AI and digital technologies. Some of the most important uses of digitalization and AI in aviation are outlined below:

- Maintenance, Repair and Overhaul (MRO). AI technology can be used in the maintenance field to predict possible failure of parts. Moreover, digital technology can be used to guarantee the traceability and validity of a part (called "credentialing); often in conjunction with blockchain systems.
- Training. Digital technologies can change the way training is delivered; for example, through the development of virtual reality (VR) devices that allow for realistic-based collaborative learning.
- Cargo Movement with Autonomous vehicles. AI can be used to improve the functioning of autonomous vehicles, such as ground handling equipment and drones, improving their operations while maintaining safety.
- Air Traffic Management. AI can be used to better control aircraft movements to increase efficiency and improve safety. For example, AI can be applied in speech recognition to detect read-back errors, the synchronization of aircraft ground movements, and in predicting optimal runway configurations to maximize operating capacity. The use of AI can lead to a substantial increase in airspace capacity without significantly increasing the demands on air traffic controllers and their respective cognitive capabilities.
- Flight Safety. Using the data generated by aircraft and their systems, smart algorithms exist that can detect trends in normal operations, as well as potential hazardous behaviors.
- Aviation Operations. Digitalization can help the industry make smarter use of assets, optimize efficiency of all processes and develop a better understanding of the businesses, routes, costs and opportunities for improvement. Applications include on-line or mobile check-in, identification of passengers with the use of biometrics, assistance to passengers to resolve travel problems and the real-time provision of information on flight updates, changes, delays and baggage management.
- Revenue Management. AI can help airlines achieve greater profitability, by allowing enhanced inventory availability and price optimization, based on intelligent demand analysis. AI can assist in the analysis of product configuration decisions (seat or cargo payload) at specific points in time, thereby providing highly competitive, customized (product) pricing for all customers. Airlines can thus attain higher flight/aircraft/fleet utilization, creating operating efficiencies and producing additional revenues that can be directed to customer service enhancement.
- Enhance the Customer Experience. Digitalization can help the aviation industry better understand traveler needs and to improve the passenger experience. AI can be used to meet the needs of individual passengers; for example, in terms of inflight-entertainment options and meal requests. AI can also assist in resolving customer breakdowns; such as helping passengers to arrive at their destination after missed connections.

Challenges to Meet

For digitalization and AI to achieve the greatest benefits for the aviation industry, key challenges must be overcome. As outlined by industry trade associations in their briefs to Hermes, key challenges include the following:

- Developing and Implementing Standard Practices. Regulatory frameworks will have a strong influence on digital transformation and the speed of digitalization. However, regulations can face major complications for cross-border integration, as they may have different interpretations across countries. For digitalization and AI technologies to become operational, collaboration among ICAO, States and industry is required. Both States and industry must agree to frameworks for training, certification, qualification, operations and data sharing. New industry procedures may be accomplished through amendments to ICAO Standards and Recommended Practices (SARPS). However, the development of new SARPS is a lengthy process, requiring comprehensive consultation. Then, even after there is agreement to the new SARPS, implementation, perhaps through trade associations, could take considerable time and effort.
- Data Privacy. Modern aircraft and airport systems are dependent on the reliable functioning of critical computer systems infrastructures. Consequently, the aviation industry's vulnerability to cyber-attacks is considerable. Sharing data among stakeholders in a trusted environment is a requirement for the successful implementation of digital technology. Regulations and standards defining how the data are processed, by whom, and how data security is ensured need to be set by governing bodies. Data drives digitalization and AI, and the trust of the consumer to provide their data is a critical element in any system.
- Cost of Implementation. The aviation industry, especially in developing areas such as Africa, is often characterized by very low profit margins. Airlines and other industry participants do not have the resources to heavily invest in digital transformation, so developing regions could lag wealthier regions. Unless funding is made available to the industry, it is likely that the implementation of digital technologies will be slow and uneven.

Specific Human Factor Challenges

In addition to general challenges faced by the aviation industry in the implementation of digital technologies and AI, there are specific challenges related to human factors. While digitalization and AI will certainly disrupt the work environment, with the right strategies in place, these new technologies can provide opportunities for upskilling employees and preparing them for new roles and challenges.

Digital transformation demands a new set of skills compared to the skills needed for legacy systems. Automated technologies will partly or entirely replace some repetitive jobs. Digital transformation will lead to a reduction in process driven, low-skilled physical and administrative jobs (for example check-in staff). On the other hand, new types of jobs will emerge empowered by technology to perform more complex tasks. However, such technologies will not replace critical positions involving immediate decision making that requires human logic, experience, and common sense.

Human actions currently contribute to the lion's share of aviation accidents and incidents. Therefore, ensuring that aviation workers are well-trained can be a cornerstone to the pursuit of aviation safety. For example, with the implementation of AI and the dynamic push toward digitalization, a disruptive environment has emerged that will push the industry towards the refinement of Aviation Management Systems. As the history of safety systems development in aviation has shown, it is important to be proactive in the training of personnel in the operation of the new systems.

In order to implement the new technologies, organizations must bring together teams of employees and all other involved stakeholders to explore synergies and jointly address areas of concern. Soft skills will be critical to guiding implementation. Team management, creativity and emotional intelligence will be desired qualities for team members. Hiring and developing personnel with these qualities will be essential to the successful implementation of AI and digitalization.

Outsourcing some tasks will also be possible. Airlines are served by many providers, some of which are very advanced in their digitalization strategies. This makes for a compelling case for airlines to enter strategic relationships with service providers to help transform the industry. Again, teamwork and other soft skills, such as negotiations, will be necessary to work successfully with suppliers in a team environment.

Recommendations

As noted in the brief from ICAO, the promise of intelligent automation for aviation can only be realized through a globally coordinated approach. Moreover, the implementation of digital technology and AI requires a clear set of standard operating practices. Both industry and State buy-in to the regulations is essential, so that a common set of standards emerge. In addition, regulations must both allow for the sharing of digital information and the protection of individuals' privacy. Finally, given the recent severe downturn in the industry as a result of the COVID-19 crisis, there must be funding available to industry participants to implement the new technologies and (re-)train staff accordingly. With this in mind, we propose the following:

- ICAO needs to take the lead in providing clear definitions and objectives and potentially a roadmap for the implementation of AI and digital technologies in the industry. Standards must be universal. They also must be accepted by States. As a worldwide intergovernmental organization, ICAO is the only forum for these standards to be developed and implemented.
- The development of standards, however, is not sufficient. States must enact regulations that allow industry participants to implement the technology. Unless enabling regulations are enacted, the risks and costs to industry participants in enacting new procedures could be deemed too high.
- The implementation of industry standards can be best accomplished through industry associations, such as IATA. However, given the lead times required for developing and implementing new operating procedures, these industry associations should proceed concurrently with ICAO standards development. Concurrent development will help ensure that the standards are workable and will allow industry to better participate in the development of the standards.

- Funding sources for technology implementation must be identified. Unless funding is available for industry participants around the world, implementation will be slow and uneven.
- Training and development focusing on digital skills and practices should be implemented immediately. The recent downturn of the industry has idled thousands of industry employees. Now is an ideal time to engage in training and re-training for the future needs of the industry.

2020 Hermes Report Committee

Chairman
Professor Martin Dresner, University of Maryland & President, ATRS
Members
-Robert Deillon, VP, Hermes - Air Transport Organisation
-Professor Triant Flouris, Executive Director, The American College of Greece
-Jose Guedes Dias, Air Transport Consultant, HANDS ON AVIATION
-Professor Dr Andreas Papatheodorou, Editor-in-Chief, Journal of Air Transport Studies

- END -

INTERVIEW

DR KOSTAS IATROU

Director General, Hermes - Air Transport Organisation

How was Hermes established?

Since I became more actively involved in civil aviation in 2006 with the launch of ATN-Air Transport News, my industry networking and interactions with decision makers in civil aviation have increased. I realized that missing from aviation was a transorganisational / suprorganisational institutional forum. This forum would allow all the different stakeholders and leaders in the sector to openly exchange ideas outside of established conference «umbrellas» in order to discuss innovative «outside the box» solutions to problems in aviation.

In 2012, I shared this idea with some friends from the sector and an advi-

IATS-CIAT 2019

sory committee was formed to develop this project. The members of this committee were Vijay Poonoosamy (the first Hermes President and Honorary Member), Robert Deillon (Vice President), Dr Elijah Chingosho, Dr Pierre Coutu, Mohamed Elamiri, Mauro Oretti, Ioanna Papadopoulou, Dr Andreas Papatheodorou and Ulrich Schulte-Strathaus. After a series of meetings, the committee agreed to and signed the Memorandum and Articles of the Hermes Air Transport Club.

On 14 March 2013, the Hermes Air Transport Club was founded in Montreal and on 11 July 2018, Hermes officially became a not-for-profit organization. It was thought that this legal form would give the organization visibility and enable it to achieve its objectives; that is to be actively engaged in discussions involving events around civil aviation.

What is the role of Hermes?

Hermes – Air Transport Organisation is a not-for-profit organisation that brings together thought-leaders from all sectors of air transport. It aims to operate as a forum for networking and the exchange of ideas. As an aviation thinktank, Hermes convenes professionals to discuss the problems and prospects of aviation, to contribute ideas to the progress and promotion of air transport on a global level. Hermes also aims to present to the wider public the work undertaken by the aviation sector and to publi-

cize the role aviation has played and will continue to play in economic, political and social development around the world. Finally, Hermes wants to serve as a bridge between the profession and higher education establishments to help aviation attract and train the best available personnel and professionals.

Please explain how the idea of Hermes Recommendations came about:

One of the stated aims of Hermes is to recommend strategies and policies to add value to all the stakeholders in the air transport supply chain. For this reason, we decide each year to focus on one subject of particular importance to aviation. We then call on our members and on aviation organisations to develop discussion papers that propose problem solutions related to the issue of importance. After reviewing these papers, Hermes attempts to find common ground among these thought leaders to prepare a Recommendation Paper on the issue. Through these Recommendations Papers, Hermes aspires to help the industry to proactively deal with key issues so that problems do not reach the crises level in the sector.

In April, Hermes held the 2020 Hermes AGM & Leaders Forum online. What was the feedback?

We are thrilled that the decision-makers and representatives of the industry accepted our invitation to go online to speak about the current situation faced by aviation and on how to restart the industry. We had record participation from our members and also the active participation from our partner organisations, namely IATA, AACO, AFRAA, ALTA, ERA and EUROCONTROL. They all agreed that the COVID-19 pandemic is an unprecedented crisis for the industry, much more serious and long-lasting than previous events. But the conference speakers expressed confidence that the industry is resilient and will rebound. Most importantly, they see the current crisis as an opportunity to redesign the industry, to make it stronger, healthier and even more resilient, and to adopt all the necessary procedures and processes to gain back traveller trust.

You referred to the partnerships of Hermes. How important are these for the organisation?

Since July 2018, when Hermes officially became a not-for-profit organisation based in Montreal, Canada,

we have signed seven Memoranda of Understanding.

As stated above, our partners participate in our Leaders Forum which for Hermes is both an honour and a recognition of our work and efforts.

The MoUs allow us close cooperation with key stakeholders in air transport. Under the agreements, Hermes serves as a forum for sharing industry information and best practices and enhances participation in joint activities and initiatives for the benefit of the members of the organisations. In addition to the MoUs that we have signed, ICAO accepted our request to participate as an observer in last year's Assembly.

How do you see the future of air transport after COVID-19?

Air transport currently is and will be in the future a key faucet of modern societies and the modern way of life. It is true that COVID-19 has had an impact on how people take decisions to travel for work and pleasure, and will certainly influence holiday choices, especially since this pandemic has brought about an economic slow down. However this is not the first time and will not be the last time that humanity has faced such a crisis. People have always wanted to travel, so flying will continue to be desired. It will just take the public some time to consider the necessary precautions and to travel again.

How do you see Hermes in the future?

I am pleased to say that in only seven years, Hermes has managed to be recognised by the leaders of the air transport industry and by the key organisations in the field. I believe that Hermes can play a pivotal role in the future development of the sector, thanks to the active participation of its members and its interaction with industry stakeholders. Hermes is here to stay and will continue to try to make aviation a better industry in the future.

ARTICLE

THESE 4 CHARTS SHOW THE CRISIS FACED BY AIRLINES – AND THE POSSIBLE WAY AHEAD*

*by **Vijay Poonoosamy,** Honorary Member, Hermes - Air Transport Organisation***

**Vijay Poonoosamy is the Singapore-based Director International and Public Affairs of QI Group, an Honorary Member of the Hermes - Air Transport Organisation, a Non-Executive Member of the Board of Veling Group, a member of the International Board of Experts of Rebuilding Travel, of the Advisory Board of the World Tourism Forum Lucerne and of the World Economic Forum's Strategy Officers Community and Gender Parity Steering Committee. He is also a long-standing resource person for ICAO, IATA and ACI. He was the Managing Director of Air Mauritius, Executive Chairman of Airport of Mauritius, Vice President International & Public Affairs of Etihad Airways and a member of the World Economic Forum's Global Future Council on Mobility."

*originally appeared in the World Economic Forum's Agenda

- COVID-19 has grounded airlines all over the world. These four charts show the industry's main challenges now and in the near future.
- Quarantines, economic recession and health fears are likely to continue to weigh on passenger numbers.
- Record losses have already forced governments to step in - but continued support may be tied to conditions a https://www.iata.org/en/iata-repository/publications/economic-reports/record-loss-in-2020-extending-to-2021-but-at-a-lower-level/ wround financial soundness and environmental sustainability.

The COVID-19 crisis has grounded airlines and halted air travel all over the world, with economic consequences that are rippling far beyond the sector. Here are four charts that show the main challenges faced by airlines right now – and the dramatic changes we could see in this vital industry.

Airlines are facing record losses, not just this year

Airlines around the world are expected to lose a record $84 billion in 2020, more than three times the loss made during in the Global Financial Crisis, according to the International Air Transport Association (IATA).

The global economic recession and travellers' fear of catching the virus are likely to continue to weigh on passenger numbers, even as travel restrictions are starting to ease. Business travel is also expected to remain sluggish, with companies noticing the cost-saving impact of video meetings and online conferences. Such savings will be all the more welcome in a difficult economic climate. Airlines are therefore still expected to lose $16 billion in 2021, and that's assuming there won't be a second wave of COVID-19 infections in the autumn and winter. **(1)**

Quarantine measures have a similar industry impact to full travel bans

Countries are starting to admit foreign visitors again, but this is often

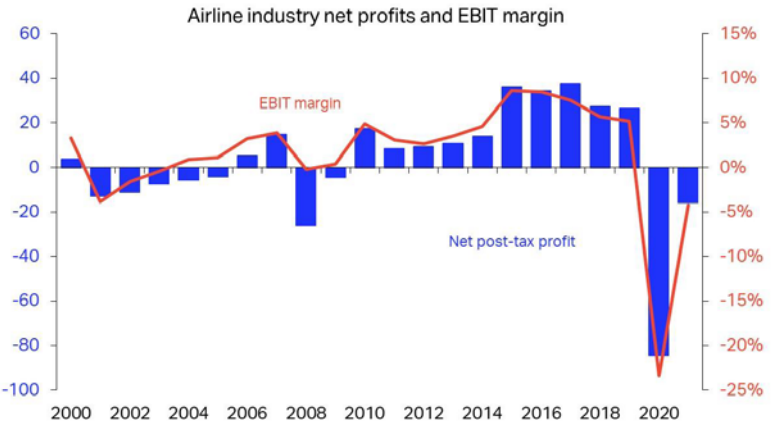
coupled with the condition of quarantining for two weeks after arrival. For airlines, the change is unlikely to result in a recovery of passenger numbers. An IATA analysis shows similar drops in flights under full travel bans, and entry with quarantine. This makes sense: tourists are more likely to stay at home than spend their entire holiday in quarantine, and for the typical one- or two-day business trip, the set-up doesn't work at all. This makes the sector's recovery even more complicated in the longer term. **(2)**

One alternative to quarantine measures are so-called travel bubbles or air bridges, meaning that countries with low infection numbers group together and allow quarantine-free travel between each other. Such agreements may somewhat help passenger numbers, but they don't change the fact that global travel will remain limited for the foreseeable future. Also, the agreements are likely to change over time depending on whether certain countries experience second waves or even localised outbreaks.

Airlines are only part of the story – the whole travel industry is in deep trouble

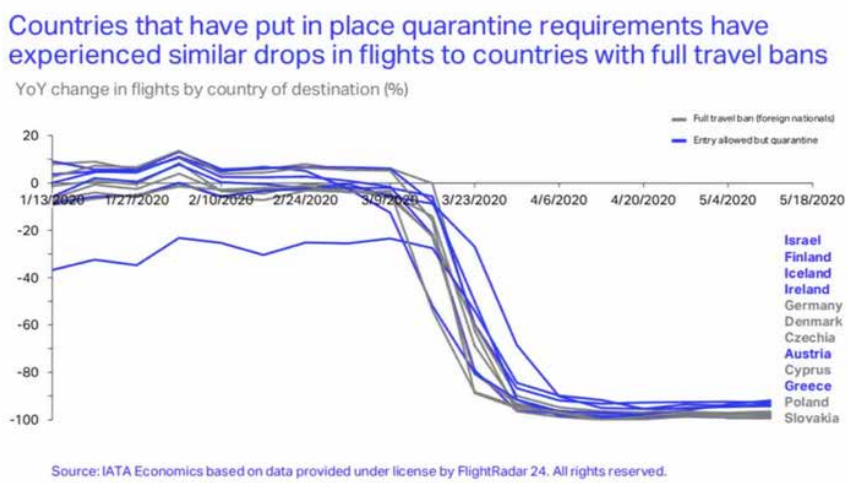
Tourist arrivals could plunge by 1 billion this year, according to a projection by the UN World Tourism Organization. The knock-on effect on the wider economy would be disastrous. The travel and tourism sector contributed 330 million jobs or 1 in 10 jobs worldwide in 2019, and added $8.9 trillion to global Gross Domestic Product. If current travel restrictions only start to ease from September, that contribution could dive by 62% to $5.5 billion in 2020, and more than 197 million jobs worldwide could be lost. **(3)**

Record loss in 2020 extending to 2021 but at a lower level



(1) *Image: IATA*

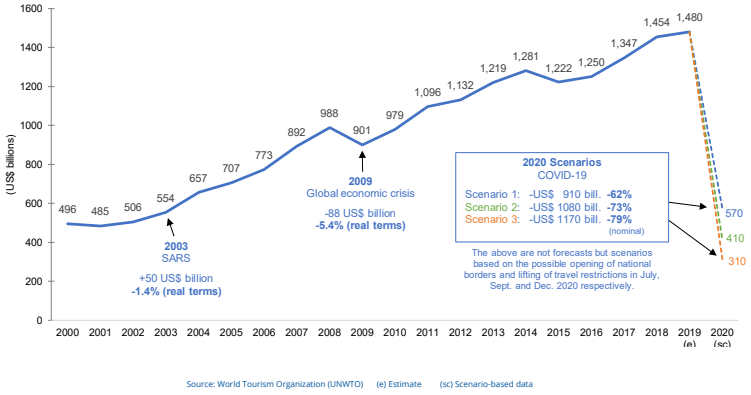
Countries that have put in place quarantine requirements have experienced similar drops in flights to countries with full travel bans



(2) *Image: IATA*

International tourism receipts could plunge by US$ 1 trillion

International tourism receipts, 2000-2019 and scenarios for 2020 (U$ billion)



(3) *Image: UNWTO*

A recovery of the tourism industry will only be possible if airlines are still there to welcome passengers once they are ready to fly again.

Given these catastrophic scenarios, coupled with the broader economic and strategic significance of airlines, governments will have to step in to support them through this crisis and in all probability, beyond.

Governments are bailing out airlines – but are they supporting the right ones?

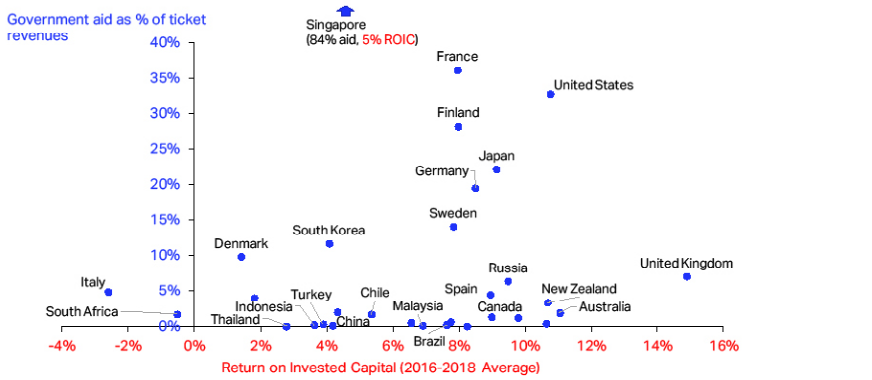
Governments have spent $123 billion to support airlines, and will probably have to spend more as the sector's problems drag on. However, rather than limiting their help to airlines that were financially sound before the crisis, governments have mostly handed out aid without taking into account the businesses' long-term viability. This is worrying, because the current state aid (which is creating debt rather than equity) will add to airlines' debt levels. Once the pandemic has passed, some airlines may fail anyway, crushed by debt and poor management. **(4)**

An opportunity for the sector?

As governments funnel more state aid into airlines, they are likely to start demanding something in return. One possible scenario is that they will switch to supporting only airlines that were well-managed and financially sound before the crisis, and that are vital to national interests. Failing airlines may be forced to overhaul their business models and management. There have already been calls for governments to support only financially sound businesses across a range of sectors, as anything else would lead to an uncertain and unsustainable economic recovery.

There could also be a broader, positive change ahead: governments may ask airlines to consider the interests of a wide range of stakeholders, not just private shareholders. Environmental organizations and other groups have for example demanded that any airlines bailout be linked to conditions such as improved workers' rights and more action to reduce emissions and tackle climate change. Some governments have already offered bailouts with climate-related conditions.

Stakeholders include the government and local authorities, but also airports, the travel and tourism community and other business sectors, relevant non-governmental organizations, and anyone else who feels their interests are affected. Their voices are likely to become more influential as airlines rely more heavily on state aid. In the travel and tourism industry, there have already been calls to use the crisis as an opportunity to create a more economically, socially and environmentally sustainable tourism model. Something similar could happen in the aviation industry, if we see the current numbers and predictions as an impulse to do better and help shape a brighter future for air travel.

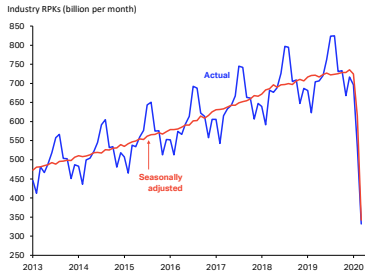


(4) *Image: IATA*

STATISTICS

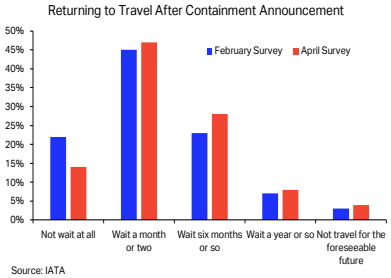
MAR 2020:
Air Passenger Market Analysis

Chart 1 – Air passenger volumes



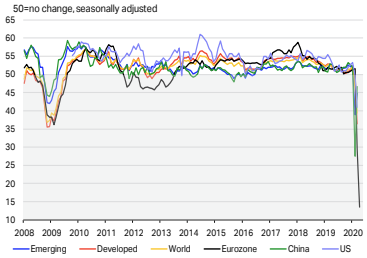
Sources: IATA Economics, IATA Monthly Statistics

Chart 2 – Survey data for air traveler confidence



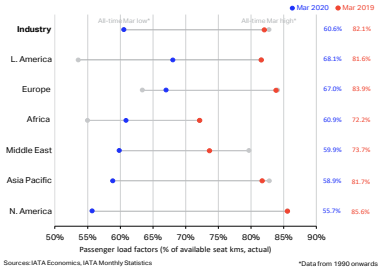
Source: IATA

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



Source: Markit

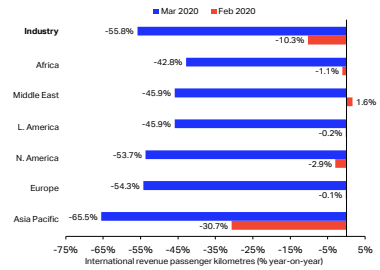
Chart 4 – Passenger load factors by region



Sources: IATA Economics, IATA Monthly Statistics

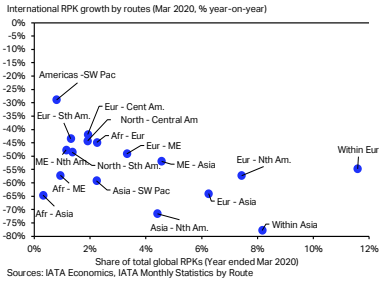
*Data from 1990 onwards

Chart 5 – International RPK growth, yearly (airline region of registration basis)



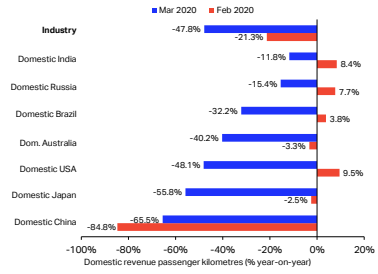
Sources: IATA Economics, IATA Monthly Statistics

Chart 6 – RPK growth in international segment based RPKs, selected routes



Sources: IATA Economics, IATA Monthly Statistics by Route

Chart 7 – Domestic RPK growth by market



Sources: IATA Economics, IATA Monthly Statistics

Air passenger market detail - March 2020

	World share [1]	March 2020 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	% year-to-date RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**-52.9%**	**-36.2%**	**-21.4%**	**60.6%**	**-22.2%**	**-14.7%**	**-7.1%**	**73.7%**
Africa	*2.1%*	-44.6%	-34.4%	-11.3%	60.9%	-13.6%	-7.9%	-4.4%	66.8%
Asia Pacific	*34.7%*	-59.9%	-44.4%	-22.8%	58.9%	-33.3%	-23.3%	-10.7%	71.3%
Europe	*26.8%*	-51.8%	-39.7%	-16.8%	67.0%	-18.0%	-13.8%	-4.0%	77.9%
Latin America	*5.1%*	-39.3%	-27.2%	-13.5%	68.1%	-11.6%	-7.8%	-3.4%	78.4%
Middle East	*9.0%*	-46.0%	-33.6%	-13.8%	59.9%	-13.2%	-10.8%	-1.9%	71.6%
North America	*22.2%*	-49.8%	-22.8%	-29.9%	55.7%	-15.7%	-5.5%	-8.8%	73.2%
International	***63.8%***	**-55.8%**	**-42.8%**	**-18.4%**	**62.5%**	**-21.7%**	**-16.1%**	**-5.4%**	**74.8%**
Africa	*1.8%*	-42.8%	-32.9%	-10.5%	60.8%	-13.0%	-7.6%	-4.1%	66.5%
Asia Pacific	*19.1%*	-65.5%	-51.4%	-23.4%	57.1%	-30.5%	-21.7%	-9.1%	72.1%
Europe	*24.0%*	-54.3%	-42.9%	-16.8%	67.6%	-19.1%	-15.4%	-3.6%	78.9%
Latin America	*2.7%*	-45.9%	-33.5%	-15.3%	66.5%	-16.6%	-12.6%	-3.7%	78.2%
Middle East	*8.7%*	-45.9%	-33.5%	-13.7%	59.9%	-13.3%	-10.9%	-2.0%	71.6%
North America	*7.5%*	-53.7%	-38.1%	-21.1%	62.8%	-19.7%	-13.5%	-5.7%	75.4%
Domestic	***36.2%***	**-47.8%**	**-24.5%**	**-26.0%**	**58.1%**	**-23.1%**	**-12.2%**	**-10.2%**	**71.9%**
Dom. Australia[4]	*0.8%*	-40.2%	-25.2%	-15.9%	63.4%	-14.6%	-10.0%	-4.1%	74.4%
Domestic Brazil[4]	*1.1%*	-32.2%	-24.0%	-8.7%	72.2%	-8.2%	-6.4%	-1.6%	80.9%
Dom. China P.R.[4]	*9.8%*	-65.5%	-51.4%	-24.7%	60.2%	-52.5%	-40.4%	-17.2%	67.7%
Domestic India[4]	*1.6%*	-11.8%	0.7%	-10.7%	76.0%	-0.2%	4.2%	-3.7%	83.6%
Domestic Japan[4]	*1.1%*	-55.8%	-14.3%	-36.7%	39.0%	-20.1%	-3.1%	-12.5%	59.0%
Dom. Russian Fed.[4]	*1.5%*	-15.4%	5.2%	-15.8%	64.6%	-1.8%	7.5%	-6.7%	70.9%
Domestic US[4]	*14.0%*	-48.1%	-14.7%	-33.9%	52.7%	-13.6%	-1.0%	-10.5%	72.1%

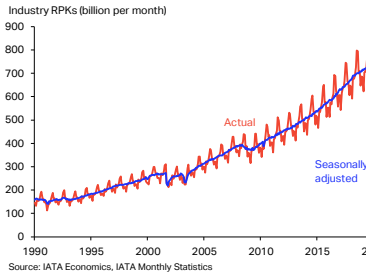
[1] % of industry RPKs in 2019 [2] Year-on-year change in load factor [3] Load factor level

[4] Note: the seven domestic passenger markets for which broken-down data are available account for 30% of global total RPKs and approximately 83% 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 registrated; it should not be considered as regional traffic.

APR 2020: Air Passenger Market Analysis

Chart 1 – Air passenger volumes



Source: IATA Economics, IATA Monthly Statistics

International aviation hit more than domestic marke

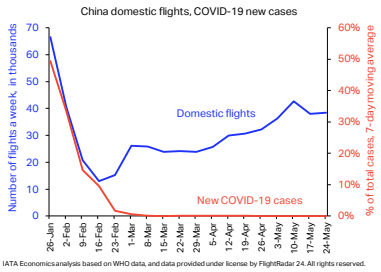
The dramatic decline in passenger volumes

Chart 2 – Coronavirus travel regulations map

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

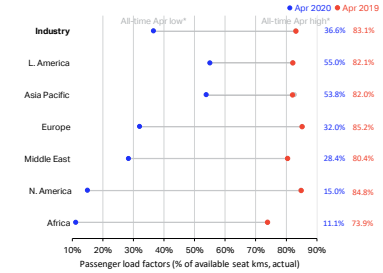
Source: Markit

Chart 4: Flights in China domestic market & COVID-19 new cases



IATA Economics analysis based on WHO data, and data provided under license by FlightRadar 24. All rights reserved.

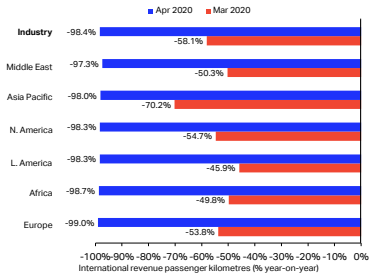
Chart 5 – Passenger load factors by region



Sources: IATA Economics, IATA Monthly Statistics

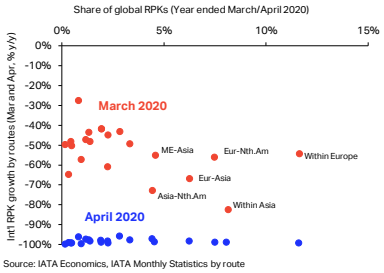
*Data from 1990 onwards

Chart 6 – International RPK growth, yearly (airline region of registration basis)



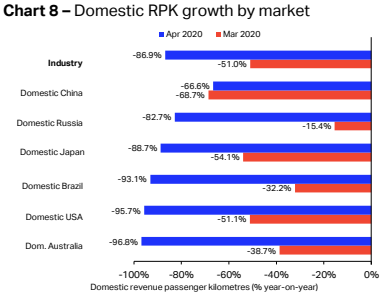
Sources: IATA Economics, IATA Monthly Statistics

Chart 7 – Growth in the international segment based RPKs, selected routes



Source: IATA Economics, IATA Monthly Statistics by route

Chart 8 – Domestic RPK growth by market



Sources: IATA Economics, IATA Monthly Statistics

Air passenger market detail - April 2020

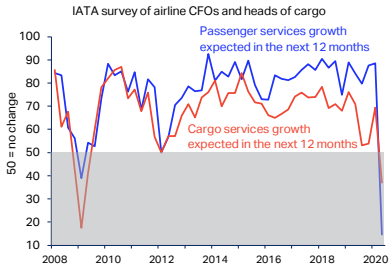
	World share [1]	April 2020 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	% year-to-date RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**-94.3%**	**-87.0%**	**-46.6%**	**36.6%**	**-41.9%**	**-33.8%**	**-9.9%**	**71.5%**
Africa	*2.1%*	-98.3%	-88.4%	-62.8%	11.1%	-37.3%	-29.4%	-8.0%	63.9%
Asia Pacific	*34.7%*	-88.5%	-82.5%	-28.2%	53.8%	-48.4%	-39.5%	-12.0%	69.9%
Europe	*26.8%*	-98.1%	-94.9%	-53.2%	32.0%	-40.4%	-35.8%	-5.9%	76.9%
Latin America	*5.1%*	-96.0%	-94.0%	-27.1%	55.0%	-32.1%	-28.6%	-3.9%	78.0%
Middle East	*9.0%*	-97.3%	-92.4%	-52.1%	28.4%	-36.2%	-31.8%	-4.9%	70.4%
North America	*22.2%*	-96.6%	-80.5%	-69.9%	15.0%	-38.0%	-24.8%	-14.5%	68.2%
International	***63.8%***	**-98.4%**	**-95.1%**	**-55.3%**	**27.5%**	**-42.7%**	**-37.1%**	**-7.1%**	**73.7%**
Africa	*1.8%*	-98.7%	-87.7%	-65.3%	7.7%	-37.0%	-29.0%	-8.0%	63.2%
Asia Pacific	*19.1%*	-98.0%	-94.9%	-49.9%	31.3%	-48.8%	-41.5%	-10.2%	71.0%
Europe	*24.0%*	-99.0%	-97.0%	-58.0%	27.7%	-41.6%	-37.7%	-5.2%	78.1%
Latin America	*2.7%*	-98.3%	-97.0%	-34.5%	48.1%	-36.2%	-32.7%	-4.2%	77.9%
Middle East	*8.7%*	-97.3%	-92.3%	-52.9%	27.9%	-36.4%	-31.9%	-5.0%	70.3%
North America	*7.5%*	-98.3%	-94.4%	-57.2%	25.7%	-40.8%	-34.7%	-7.7%	73.9%
Domestic	***36.2%***	**-86.9%**	**-72.1%**	**-44.3%**	**39.5%**	**-40.4%**	**-27.9%**	**-14.4%**	**68.2%**
Dom. Australia[4]	*0.8%*	-96.8%	-92.5%	-46.1%	34.6%	-36.1%	-30.5%	-6.3%	72.7%
Domestic Brazil[4]	*1.1%*	-93.1%	-91.4%	-15.9%	65.9%	-27.6%	-26.0%	-1.9%	80.5%
Dom. China P.R.[4]	*9.8%*	-66.6%	-57.2%	-18.6%	66.4%	-56.8%	-45.7%	-17.3%	67.7%
Domestic Japan[4]	*1.1%*	-88.7%	-54.6%	-51.8%	17.1%	-36.6%	-15.6%	-17.6%	53.2%
Dom. Russian Fed.[4]	*1.5%*	-82.7%	-62.4%	-43.8%	37.1%	-23.8%	-11.0%	-11.3%	67.1%
Domestic US[4]	*14.0%*	-95.7%	-72.9%	-72.3%	13.5%	-36.6%	-19.4%	-17.8%	65.6%

[1]% of industry RPKs in 2019 [2]Year-on-year change in load factor [3]Load factor level

[4] Note: the six domestic passenger markets for which broken-down data are available account for 28% of global total RPKs and approximately 78% 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 registrated; it should not be considered as regional traffic.

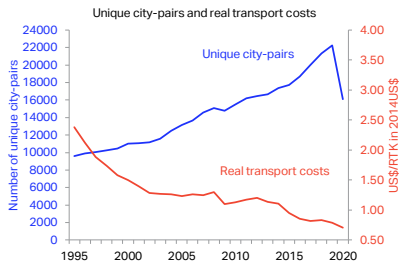
JUN 2020:
Air Passenger Market Analysis



Source: IATA

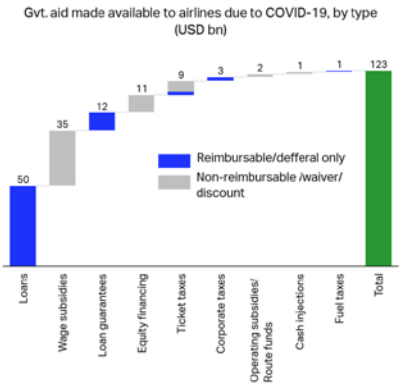
Worldwide airline Industry	2019	2020F	2021F
Spend on air transport*, $billion	876	434	598
% change over year	3.6%	-50.4%	37.7%
% global GDP	1.0%	0.5%	0.6%
Return fare, $/pax. (2018$)	317	254	257
Compared to 1998	-61%	-68%	-68%
Freight rate, $/kg (2018$)	1.82	2.31	2.26
Compared to 1998	-64%	-54%	-55%
Passenger departures, million	4,543	2,246	3,384
% change over year	3.8%	-50.6%	50.6%
RPKs, billion	8680	3929	6099
% change over year	4.2%	-54.7%	55.2%
CTKs, billion	254	211	263
% change over year	-3.2%	-16.8%	24.6%
World GDP growth, %	2.5%	-5.0%	7.1%
World trade growth, %	0.9%	-12.9%	21.3%

Note: RPK = Revenue Passenger Km, CTK = Cargo & mail Tonne Km
GVA = Gross Valued Added (firm-level GDP). *Airline revenue + indirect taxes.
Sources : IATA, ICAO, OE, CPB, PaxIS, CargoIS, WTO



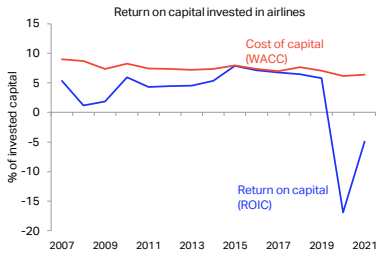
Worldwide airline Industry	2019	2020F	2021F
Unique city pairs	21187	16102	
Compared to 1998	107%	57%	
Transport cost, US$/RTK (2018$)	78.4	70.5	68.0
Compared to 1998	-55%	-59%	-61%
Value of trade carried, $billion	6,504	5,543	6,234
% change over year	-2.5%	-14.8%	12.5%
Value of tourism spend, $billion	902	457	706
% change over year	7.1%	-49.3%	54.5%

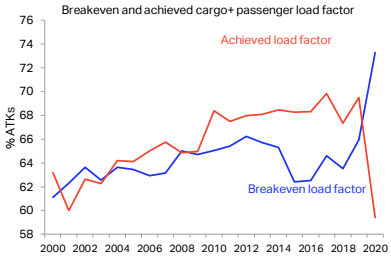
Note: RTK = Revenue Tonne Kilometers, GVA = Gross Value Added. The total number of 'routes' or airport pairs is much higher due to multiple airports in some cities and connections are counted both ways. City-pairs: jets + turbo-props larger than 19 seats, at least 1 flight a week from SRS Analyser. Supply chain jobs and GVA from ATAG ABBB 2018 report appendix.

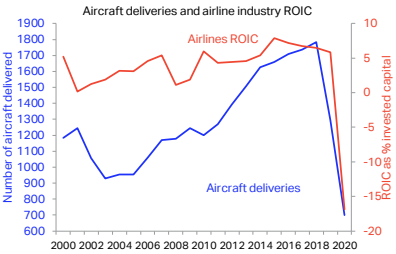


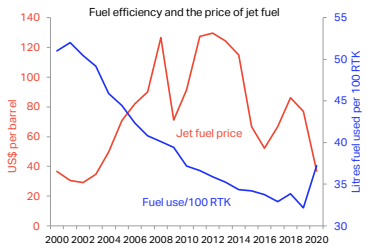
Worldwide airline Industry	2018	2019	2020F
Industry ROIC, % invested capital	6.5%	5.8%	-16.9%
North America	9.0%	9.9%	-10.5%
Europe	8.8%	7.0%	-14.3%
Asia Pacific	4.3%	3.5%	-12.7%
Latin America	5.0%	3.9%	-16.6%
EBIT margin, % revenue	5.7%	5.2%	-23.4%
Net post-tax profits, $billion	27.3	26.4	-84.3
% revenues	3.4%	3.1%	-20.1%
$ per passenger	6.22	5.80	-37.54
Adjusted net debt/EBITDAR	4.50	4.60	-7.13

Note: ROIC = Return on Invested Capital, EBIT = Earnings Before Interest and Tax. Debt adjusted for operating leases. **Current year or forward-looking industry financial assessments should not be taken as reflecting the performance of individual airlines, which can differ significantly**.



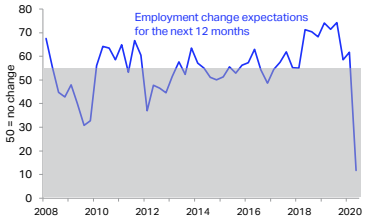


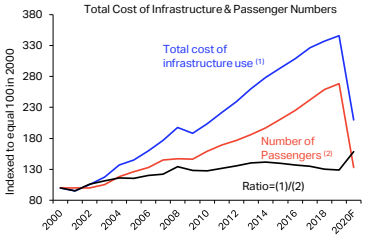




Worldwide airline Industry	2019	2020F	2021F
Fuel spend, $billion	188	78	85
% change over year	4.7%	-58.8%	9.1%
% operating costs	23.7%	15.0%	13.6%
Fuel use, billion litres	363	228	297
% change over year	1.0%	-37.1%	30.3%
Fuel efficiency, litre fuel/100atk	22.4	22.1	21.9
% change over year	-1.9%	-1.0%	-1.1%
CO_2, million tonnes	914	574	748
% change over year	1.0%	-37.1%	30.3%
Fuel price, $/barrel	77.0	36.8	51.8
% change over year	-10.6%	-52.3%	40.8%
% spread over oil price	18.5%	5.0%	15.0%

Note: ATK = Available Tonne Kilometers. Sources: Ascend, ICAO, IATA.





EU airspace inefficiency	2018	2019	Jan 2020	Feb 2020	Mar 2020
Delay minutes, million	25.6	24.2	0.7	1.1	0.7
% change over year	61.2%	-5.7%	14.8%	48.9%	-44.4%
Operating cost to airlines, US$m	2,152	2,151			
Passenger time value loss, US$m	2,487	2,571			

STATISTICS

AIRPORTS COUNCIL INTERNATIONAL

FEB 2020: Worldwide Traffic Results

Passenger traffic/Freight volumes

(Summary)

Table 1: Summary Worldwide Traffic Results, February 2020 (% change)			
	February 2020 over February 2019	Year to date 2020	12-month rolling year
PaxFlash			
International passenger	(10.6)	(3.6)	2.8
Domestic passenger	(10.2)	(4.2)	1.0
Total passenger	(10.7)	(4.1)	1.8
FreightFlash			
International freight	0.4	(2.1)	(3.8)
Domestic freight	(2.4)	(3.5)	0.0
Total freight	(0.5)	(2.5)	(2.7)

TABLE 2: PaxFlash summary – February 2020			
Regions	February 2020 % YOY	YTD February 2020 % YOY	YE thru February 2020 % YOY
International passengers			
Africa	6.8	7.5	6.8
Asia-Pacific	(40.9)	(19.0)	(0.4)
Europe	2.5	3.1	4.1
Latin America-Caribbean	0.2	0.1	2.4
Middle East	1.0	3.6	3.6
North America	(0.6)	0.4	2.6
World	(10.6)	(3.6)	2.8
Domestic passengers			
Africa	10.0	9.9	7.6
Asia-Pacific	(35.5)	(19.0)	(3.0)
Europe	(2.7)	(2.0)	(0.8)
Latin America-Caribbean	5.0	5.8	4.7
Middle East	…	…	…
North America	6.4	5.7	4.1
World	(10.2)	(4.2)	1.0
Total passengers			
Africa	7.8	8.2	7.1
Asia-Pacific	(38.4)	(19.4)	(2.1)
Europe	1.1	1.7	2.9
Latin America-Caribbean	3.2	3.7	3.9
Middle East	1.1	4.2	3.4
North America	5.2	4.8	3.8
World	(10.7)	(4.1)	1.8

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 perio

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AIRPORTS COUNCIL INTERNATIONAL

FEB 2020: Worldwide Traffic Results

Passenger traffic/Freight volumes

(Summary)

TABLE 3: FreightFlash summary – February 2020			
Regions	February 2020 % YOY	YTD February 2020 % YOY	YE thru February 20 2020 % YOY
International freight			
Africa	0.1	2.9	(0.7)
Asia-Pacific	1.4	(3.6)	(4.9)
Europe	0.2	(1.4)	(2.4)
Latin America-Caribbean	0.9	0.9	(4.7)
Middle East	5.8	3.2	(1.8)
North America	(5.3)	(5.0)	(5.1)
World	0.4	(2.1)	(3.8)
Domestic freight			
Africa	…	…	…
Asia-Pacific	(9.1)	(8.8)	(2.9)
Europe	1.5	2.0	2.7
Latin America-Caribbean	(2.3)	1.1	(1.0)
Middle East	…	…	…
North America	0.7	(1.2)	1.7
World	(2.4)	(3.5)	0.0
Total freight			
Africa	1.0	3.3	(0.4)
Asia-Pacific	(1.3)	(5.0)	(4.3)
Europe	0.3	(1.2)	(2.2)
Latin America-Caribbean	0.0	1.0	(3.6)
Middle East	4.5	2.6	(1.9)
North America	(1.6)	(2.7)	(1.1)
World	(0.5)	(2.5)	(2.7)

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

AIRPORTS COUNCIL INTERNATIONAL

MAR 2020: Worldwide Traffic Results

Passenger traffic/Freight volumes

(Summary)

Table 1: Summary Worldwide Traffic Results, March 2020 (% change)			
	March 2020 over March 2019	Year to date 2020	12-month rolling year
PaxFlash			
International passenger	(62.4)	(24.8)	(2.6)
Domestic passenger	(50.6)	(20.7)	(3.4)
Total passenger	(55.9)	(22.7)	(3.1)
FreightFlash			
International freight	(15.7)	(7.2)	(5.1)
Domestic freight	(11.1)	(6.3)	(1.1)
Total freight	(14.4)	(6.9)	(3.8)

TABLE 2: PaxFlash summary – March 2020			
Regions	March 2020 % YOY	YTD March 2020 % YOY	YE thru March 2020 % YOY
International passengers			
Africa	(51.1)	(13.2)	1.4
Asia-Pacific	(77.6)	(39.0)	(7.5)
Europe	(60.1)	(20.5)	(0.6)
Latin America-Caribbean	(45.0)	(16.3)	(3.2)
Middle East	(57.5)	(17.4)	(1.2)
North America	(50.4)	(18.4)	(2.3)
World	(62.4)	(24.8)	(2.6)
Domestic passengers			
Africa	(36.3)	(6.9)	3.8
Asia-Pacific	(54.4)	(31.2)	(7.6)
Europe	(52.7)	(20.4)	(5.3)
Latin America-Caribbean	(38.9)	(9.2)	1.8
Middle East	...	...	...
North America	(50.4)	(15.5)	(0.8)
World	(50.6)	(20.7)	(3.4)
Total passengers			
Africa	(46.0)	(11.1)	2.3
Asia-Pacific	(63.7)	(34.6)	(7.7)
Europe	(58.1)	(20.5)	(1.8)
Latin America-Caribbean	(41.1)	(11.7)	0.2
Middle East	(56.8)	(17.4)	(1.9)
North America	(50.4)	(16.0)	(1.1)
World	(55.9)	(22.7)	(3.1)

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 perio

► CONTINUED FROM PAGE 50

AIRPORTS COUNCIL INTERNATIONAL

MAR 2020: Worldwide Traffic Results

Passenger traffic/Freight volumes

(Summary)

TABLE 3: FreightFlash summary – March 2020			
Regions	March 2020 % YOY	YTD March 2020 % YOY	YE thru March 20 2020 % YOY
International freight			
Africa	(22.4)	(6.3)	(2.7)
Asia-Pacific	(14.2)	(7.7)	(6.0)
Europe	(16.2)	(7.0)	(3.8)
Latin America-Caribbean	(22.4)	(7.0)	(6.0)
Middle East	(17.8)	(4.1)	(3.6)
North America	(13.8)	(8.5)	(6.2)
World	(15.7)	(7.2)	(5.1)
Domestic freight			
Africa	...	...	...
Asia-Pacific	(26.0)	(15.1)	(4.9)
Europe	(18.6)	(5.2)	0.3
Latin America-Caribbean	(26.1)	(9.7)	(3.8)
Middle East	...	...	...
North America	(1.6)	(1.4)	1.1
World	(11.1)	(6.3)	(1.1)
Total freight			
Africa	(20.8)	(5.4)	(2.2)
Asia-Pacific	(17.2)	(9.7)	(5.6)
Europe	(16.4)	(6.8)	(3.5)
Latin America-Caribbean	(23.4)	(7.8)	(5.3)
Middle East	(17.9)	(4.5)	(3.7)
North America	(6.6)	(4.2)	(1.8)
World	(14.4)	(6.9)	(3.8)

TRAFFIC TABLE DEFINITIONS:

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

STATISTICS

ECONOMIC DEVELOPMENT

FEB 2020: Air Transport Monthly Monitor

World Results and Analyses. Total scheduled services

(Domestic and international)

Air Transport Bureau
E-mail: ecd@icao.int

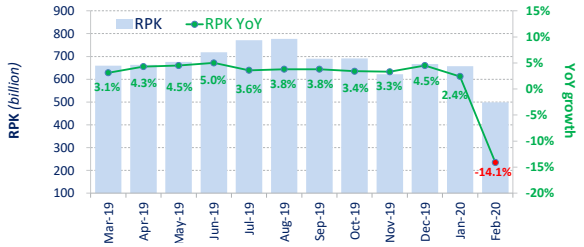
http://www.icao.int/sustainability/Pages/Air-Traffic-Monitor.aspx

GLOBAL KEY FIGURES	FEB 2020 (versus FEB 2019)	OUTLOOK* - MAR 2020 (versus MAR 2019)
	RPK ▼ -14.1 ASK ▼ -8.7% FTK ▼ -1.4% LF: 75.9% ▼ -4.4 pt	ASK ▼ -35.3% * Source OAG

PASSENGER TRAFFIC

Revenue Passenger-Kilometres - RPK

World passenger traffic grew by -14.1% YoY in February 2020, -16.5 percentage points lower than the growth in the previous month. This was the first shock from COVID-19 impact, primarily attributed to the drastic traffic drop in Asia/Pacific, specifically in China and its neighboring countries. Over 80% of the domestic demand in China evaporated, and international traffic of the region also plummeted. With the outbreak intensifying and more countries imposing travel restrictions, outlook for air traffic in the following month will further deteriorate.

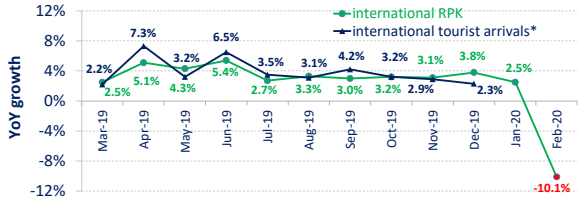


(Source: ICAO, IATA, OAG)

International Traffic vs. Tourist Arrivals

International passenger traffic grew by -10.1% YoY in February 2020, -12.6 percentage points lower than the growth in the previous month. All regions, except for Europe and the Middle East, recorded contraction in international traffic with a slump in Asia/Pacific.

Tourism is as well being hit hard by COVID-19, and the trend of international tourist arrivals* is anticipated to follow a similar trend.



*UNWTO Definition

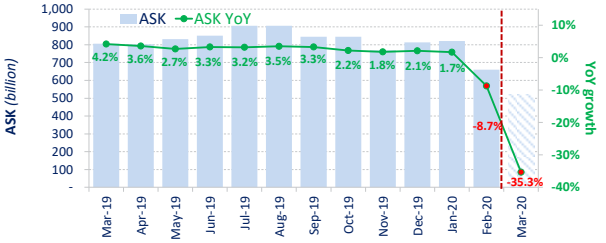
(Source: IATA, UNWTO)

CAPACITY

Available Seat-Kilometres - ASK

Capacity worldwide decreased by -8.7% YoY in February 2020, -10.4 percentage points lower than the growth in the previous month (+1.7%).

With the growing spread of the COVID-19 outbreak, global capacity is expected to reduce by -35.3% in March 2020.

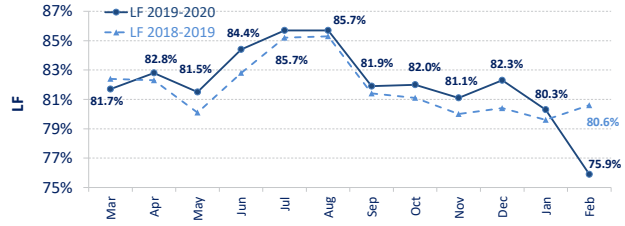


(Source: ICAO, IATA, OAG)

Load Factor - LF

The passenger Load Factor reached 75.9% in February 2020, -4.4 percentage points lower than the previous month.

As traffic decline outpaced the capacity reduction, the February LF was -4.7 percentage points lower compared to the rate in the same period of 2019.

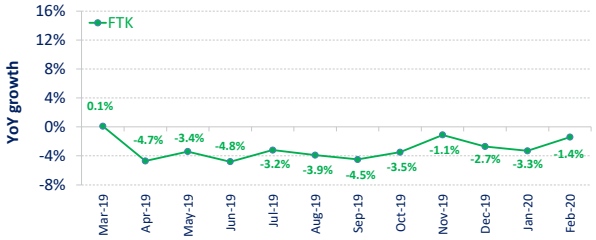


(Source: IATA)

FREIGHT TRAFFIC

Freight Tonne-Kilometres - FTK

World freight traffic reported a decline of -1.4% YoY in February 2020, +1.9 percentage points higher than the fall in the previous month. The seemingly modest decline was owing to the comparison with the sluggish performance in the same period of last year. Air freight demand has been, in fact, impacted heavily by factory shutdowns and supply chain disruptions led by the COVID-19 outbreak. Nevertheless, decrease in air freight demand is expected to be less severe than in passenger traffic, mainly due to the increasing need of transporting medical supplies and other essential goods. The three regions accounting for over 80% of the world freight traffic, Asia/Pacific, Europe and North America, all reported declines.



(Source: IATA)

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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ECONOMIC DEVELOPMENT

ICAO FEB 2020: Air Transport Monthly Monitor

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

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

FEB 2020: +5.8%, +0.8%, and +0.1% YoY in terms of aircraft departures, passengers and freight for the Top 15

FEB 20

Airports (ranking by number of departures)	Departures	YoY
Chicago IL, US (ORD)	34,291	7.2%
Atlanta GA, US (ATL)	34,209	4.1%
Dallas/Fort Worth TX, US (DFW)	27,517	8.5%
Los Angeles CA, US (LAX)	25,483	0.0%
Denver CO, US (DEN)	24,030	10.6%
Charlotte NC, US (CLT)	23,000	6.5%
Phoenix AZ, US (DVT)	20,509	19.9%
New Delhi, IN (DEL)	20,163	12.4%
Houston TX, US (IAH)	19,060	6.3%
Phoenix AZ, US (PHX)	18,661	9.4%
Amsterdam, NL (AMS)	18,221	-0.3%
Tokyo, JP (HND)	18,035	2.8%
Miami FL, US (MIA)	18,029	2.0%
Frankfurt, DE (FRA)	17,929	-2.7%
Paris, FR (CDG)	17,866	1.6%

Airports (ranking by number of passengers)	Passengers*	YoY
Atlanta GA, US (ATL)	3,895,310	2.0%
Dubai, AE (DXB)	3,271,281	-4.4%
New Delhi, IN (DEL)	2,996,579	11.5%
Los Angeles CA, US (LAX)	2,910,730	-3.8%
Tokyo, JP (HND)	2,849,756	-12.4%
Dallas/Fort Worth TX, US (DFW)	2,778,988	8.2%
Chicago IL, US (ORD)	2,723,119	0.4%
London, GB (LHR)	2,721,057	-0.7%
Paris, FR (CDG)	2,535,979	-0.3%
Denver CO, US (DEN)	2,454,188	7.0%
Amsterdam, NL (AMS)	2,359,978	-2.6%
Istanbul, TR (IST)	2,301,040	4.1%
Madrid, ES (MAD)	2,197,021	5.9%
Frankfurt, DE (FRA)	2,186,054	-4.0%
Orlando FL, US (MCO)	2,166,699	10.3%

Airports (ranking by tonnes of freight)	Freight**	YoY
Memphis TN, US (MEM)	331,265	-2.4%
Hong Kong, CN (HKG)	246,000	-8.7%
Incheon, KR (ICN)	213,746	21.2%
Dubai, AE (DXB)	190,768	-2.4%
Shanghai, CN (PVG)	179,029	-7.1%
Louisville KY, US (SDF)	177,944	1.5%
Doha, QA (DOH)	173,248	12.4%
Miami FL, US (MIA)	158,953	-1.4%
Tokyo, JP (NRT)	152,123	7.3%
Anchorage AK, US (ANC)	147,770	-6.7%
Singapore, SG (SIN)	146,800	7.6%
Taipei, CN (TPE)	145,592	16.6%
Frankfurt, DE (FRA)	140,516	-7.6%
Paris, FR (CDG)	135,153	-7.8%
Los Angeles CA, US (LAX)	124,619	-8.3%

***Note**: Total scheduled and non-scheduled services*

(Source: ACI)

In terms of **aircraft departures**, the Top 15 airports reported a growth of **+5.8%** YoY. Due to the COVID-19 impact, major Chinese airports, i.e. Beijing, Shanghai and Guangzhou disappeared from the Top 15 ranking. **Chicago** ranked **1st** with a solid growth of **+7.2%**. **Pheonix** reported the most significant growth at **+19.9%** followed **by New Delhi** at **+12.4%.**

In terms of **passengers**, the Top 15 airports reported a growth of **+0.8%** YoY. Three Chinese airports, Beijing, Shanghai and Guangzhou saw drastic decline in passenger numbers and did not rank within Top 15. **Atlanta** remained at **1st** with a modest growth of **+2.0%**. **New Delhi** ranked **3rd** with the highest growth of **+11.5%.** Declines were observed in several major hubs with the sharpest fall in **Tokyo** at **-12.4%.**

In terms of **freight**, the Top 15 airports reported a growth of **+0.1%** YoY. Similar to passenger traffic, Shanghai and Beijing did not appear in Top 15. **Hong Kong** recorded the most significant fall by **-8.7%**. **Incheon, Taipei** and **Doha** posted double-digit growth, mainly owing to the comparison with the weak outcome of a year ago.

TOP 15 AIRLINE GROUPS (Ranked by RPK)

FEB 2020: +1.7% YoY in terms of RPK for the Top 15

In terms of RPK, the Top 15 airline groups accounted for 50.0% of the world's total RPK in February 2020 and grew by +1.7% YoY. This growth was +15.8 percentage points higher than the world's average on scheduled services. **Ranking of the Top 15 airlines started to show sign of distortion due to the impact of COVID-19 significantly weighed on airlines in Asia/Pacific.**

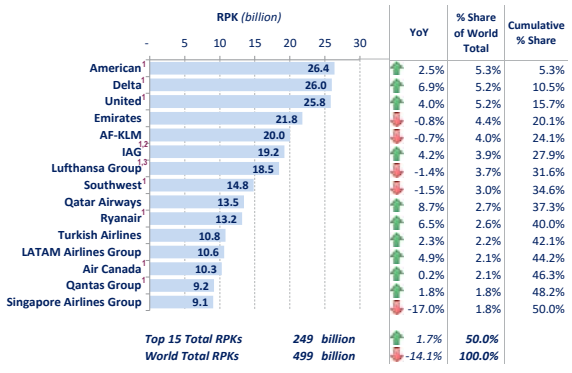
American ranked **1st** with a growth of **+2.5%**, followed by **Delta** and **United** with solid growth of **+6.9%** and **+4.0%**, respectively. **Southwest** declined by **-1.5%** albeit ranked up to **8th**. **Air Canada** reported a marginal growth of **+0.2%** while securing a **13th** position.

Emirates remained at **4th** with a slim decline of **-0.8%**. **Qatar Airways** recorded the fastest growth among the Top 15 airlines at **+8.7%** and elevated 2 positions to **9th**.

Both **AF-KLM** and **Lufthansa** recorded a decline of **-0.7%** and **-1.4%** while remained at **5th** and **7th**. **IAG** lifted 2 positions to **6th** with a growth of **+4.2%**. **Ryanair** recorded the third highest growth at **+6.5%** and went up 3 positions to **10th**. **Turkish Airways** was up 4 positions to **11th** with a growth of **+2.3%**.

Major Asia/Pacific airlines, especially the Chinese airlines suffered dreadful demand drop due to the COVID-19 outbreak and disappeared from the Top 15 ranking. **Singapore Airlines** ranked **15th** with a sharp decline of **-17.0%**. **LATAM** and **Qantas** made it to the Top 15 with a modest growth of **+4.9%** and **+1.8%**, respectively.

FEB 20



	YoY	% Share of World Total	Cumulative % Share
American	2.5%	5.3%	5.3%
Delta	6.9%	5.2%	10.5%
United	4.0%	5.2%	15.7%
Emirates	-0.8%	4.4%	20.1%
AF-KLM	-0.7%	4.0%	24.1%
IAG	4.2%	3.9%	27.9%
Lufthansa Group	-1.4%	3.7%	31.6%
Southwest	-1.5%	3.0%	34.6%
Qatar Airways	8.7%	2.7%	37.3%
Ryanair	6.5%	2.6%	40.0%
Turkish Airlines	2.3%	2.2%	42.1%
LATAM Airlines Group	4.9%	2.1%	44.2%
Air Canada	0.2%	2.1%	46.3%
Qantas Group	1.8%	1.8%	48.2%
Singapore Airlines Group	-17.0%	1.8%	50.0%
Top 15 Total RPKs	*1.7%*	*50.0%*	
249 billion			
World Total RPKs	*-14.1%*	*100.0%*	
499 billion			

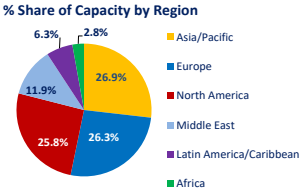
(Source: ICAO, airlines' websites)

***Note**: Total scheduled and non-scheduled services*

CAPACITY BY REGION *(ICAO Statistical Regions)*

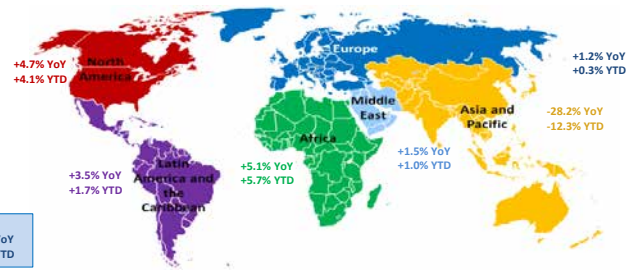
FEB 2020: -8.7% YoY in terms of World ASK

% Share of Capacity by Region



(Source: ICAO, IATA, OAG)

***Note**: Total scheduled services*



Worldwide capacity expansion grew by -8.7% YoY in February 2020. The decline in world capacity was mostly driven by the drastic capacity reduction in **Asia/Pacific** amidst the COVID-19 outbreak. All other regions remained positive with **Africa** being the fastest expanding region albeit at a slower pace.

Global capacity is expected to further shrink with the spread of the outbreak in other regions.

* Embarked Passengers ** Loaded and Unloaded Freight inTonnes 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: **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.

ECONOMIC DEVELOPMENT

MAR 2020: Air Transport Monthly Monitor

World Results and Analyses. Total scheduled services

(Domestic and international)

Air Transport Bureau
E-mail: ecd@icao.int

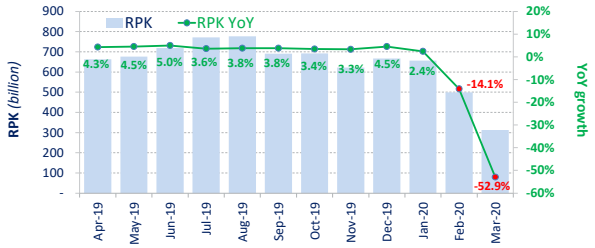
http://www.icao.int/sustainability/Pages/Air-Traffic-Monitor.aspx

GLOBAL KEY FIGURES	MAR 2020 (versus MAR 2019)	OUTLOOK* - APR 2020 (versus APR 2019)
	RPK ▼ -52.9% ASK ▼ -36.2% FTK ▼ -15.2% LF: 60.6% ▼ -21.4 pt	ASK ▼ -83.7% * Source OAG

PASSENGER TRAFFIC

Revenue Passenger-Kilometres - RPK

World passenger traffic fell by -52.9% YoY in March 2020, -38.8 percentage points lower than the decline in the previous month. This abrupt slump has far exceeded the level seen in the aftermath of 9/11. Global air travel demand was heavily impacted by the stringent travel restriction imposed by governments to contain the COVID-19 spread. All regions contributed negatively to the traffic result, with the most precipitous contraction in Asia/Pacific and Europe. China continued to be the weakest performing domestic market, followed by Japan and United States.

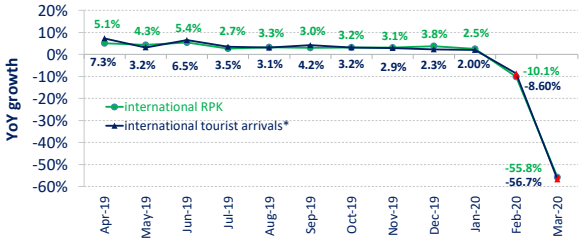


(Source: ICAO, IATA, OAG)

International Traffic vs. Tourist Arrivals

International passenger traffic fell by -55.8% YoY in March 2020, -45.7 percentage points lower than the decline in the previous month. Traffic in all regions plunged owing to the drastic drop in demand amplified by the travel restrictions and border closure.

The international tourist arrivals followed a similar trend as international passenger traffic and declined sharply.



*UNWTO Definition

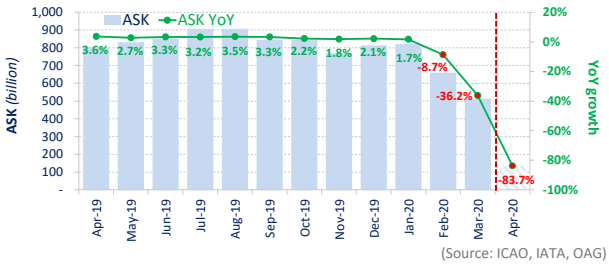
(Source: IATA, UNWTO)

CAPACITY

Available Seat-Kilometres - ASK

Capacity worldwide fell by -36.2% YoY in March 2020, -27.5 percentage points lower than the decline in the previous month (-8.7%).

With the growing spread of the COVID-19 outbreak and extension to a global pandemic, world capacity is expected to further reduce by -83.7% in April 2020.

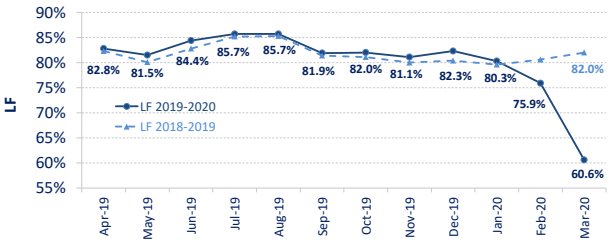


(Source: ICAO, IATA, OAG)

Load Factor - LF

The passenger Load Factor fell to 60.6% in March 2020, -15.3 percentage points lower than the previous month.

As decline in traffic demand was far greater than capacity reduction, the March LF was -21.4 percentage points lower compared to the rate in the same period of 2019.

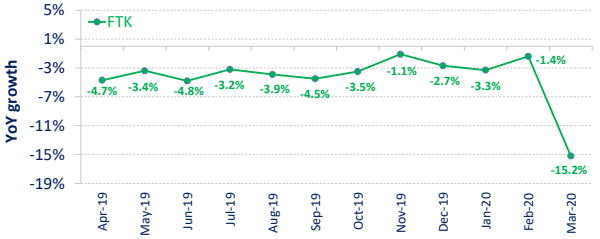


(Source: IATA)

FREIGHT TRAFFIC

Freight Tonne-Kilometres - FTK

World freight traffic reported a decline of -15.2% YoY in March 2020, -13.8 percentage points lower than the fall in the previous month, reaching 12 consecutive months of negative YoY growth for 12 consecutive months. Building on the weaker freight demand due to the trade tensions, the widespread of COVID-19 across all regions further deteriorated the freight traffic result. The fall in freight demand, however, was notably slower than the pace of passenger traffic decline, mainly due to the need of transportation of medical supplies and other essential goods. The increase in all-freighters and cargo-only operations using passenger aircraft has offset the reduction in belly cargo capacity.



(Source: IATA)

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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ECONOMIC DEVELOPMENT

ICAO MAR 2020: Air Transport Monthly Monitor

World Results and Analyses. Total scheduled services

(Domestic and international)

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

MAR 2020: -15.7%, -49.8%, and -8.1% YoY in terms of aircraft departures, passengers and freight for the Top 15

MAR 20

Airports (ranking by number of departures)	Departures	YoY	Airports (ranking by number of passengers)	Passengers*	YoY	Airports (ranking by tonnes of freight)	Freight**	YoY
Chicago IL, US (ORD)	32,838	-13.9%	Atlanta GA, US (ATL)	2,306,339	-52.1%	Hong Kong, CN (HKG)	375,000	-11.2%
Atlanta GA, US (ATL)	30,979	-20.7%	New Delhi, IN (DEL)	1,762,658	-35.7%	Memphis TN, US (MEM)	358,450	-7.0%
Dallas/Fort Worth TX, US (DFW)	25,906	-11.3%	Dubai, AE (DXB)	1,711,303	-54.5%	Shanghai, CN (PVG)	293,769	-4.8%
Los Angeles CA, US (LAX)	23,391	-20.3%	Chicago IL, US (ORD)	1,707,814	-51.6%	Anchorage AK, US (ANC)	253,920	5.0%
Denver CO, US (DEN)	22,783	-8.2%	Dallas/Fort Worth TX, US (DFW)	1,663,835	-45.5%	Incheon, KR (ICN)	233,025	-2.7%
Charlotte NC, US (CLT)	21,065	-14.9%	Los Angeles CA, US (LAX)	1,643,706	-55.4%	Louisville KY, US (SDF)	205,725	1.0%
Phoenix AZ, US (DVT)	18,924	-7.1%	London, GB (LHR)	1,553,534	-52.4%	Tokyo, JP (NRT)	190,527	2.6%
Phoenix AZ, US (PHX)	18,109	-10.7%	Toronto ON, CA (YYZ)	1,535,150	-27.4%	Taipei, CN (TPE)	183,028	-2.4%
Houston TX, US (IAH)	17,018	-18.8%	Denver CO, US (DEN)	1,461,679	-46.4%	Doha, QA (DOH)	179,909	-5.9%
Seattle WA, US (SEA)	15,488	-13.4%	Tokyo, JP (HND)	1,384,220	-64.6%	Los Angeles CA, US (LAX)	160,193	-10.5%
Tokyo, JP (HND)	15,472	-21.0%	Mexico City, MX (MEX)	1,334,187	-35.3%	Frankfurt, DE (FRA)	160,112	-16.1%
Newark NJ, US (EWR)	15,066	-22.2%	Jakarta, ID (CGK)	1,291,586	-39.0%	Dubai, AE (DXB)	158,258	-32.2%
San Francisco CA, US (SFO)	14,957	-20.8%	Orlando FL, US (MCO)	1,254,125	-47.5%	Singapore, SG (SIN)	149,400	-19.2%
Sanford FL, US (SFB)	14,764	-6.9%	Paris, FR (CDG)	1,250,508	-58.5%	Miami FL, US (MIA)	149,381	-15.0%
Miami FL, US (MIA)	14,665	-22.5%	Amsterdam, NL (AMS)	1,238,256	-56.1%	Chicago IL, US (ORD)	149,228	-2.2%

***Note**: Total scheduled and non-scheduled services*

(Source: ACI)

In terms of **aircraft departures**, all the Top 15 airports reported declines with a combined fall of **-15.7%** YoY. Due to the COVID-19 impact, several major airports disappeared from the Top 15 ranking. Except **Tokyo**, all the other Top 15 were US airports. **Chicago** remained at **1st** with a decline of **-13.9%**, followed by **Atlanta** at **-20.7%**.

In terms of **passengers**, the Top 15 airports plunged by **-49.8%** YoY with passenger numbers in most of the major hubs more than halved. Airports in China remained being impacted the most and did not rank within Top 15. **Atlanta** remained at **1st** albeit with a stark decline of **-52.1%**. Followed was **New Delhi** with a relatively less severe drop of **-35.7%**. The most significant fall was recorded by **Tokyo** at **-64.6%**.

In terms of **freight**, the Top 15 airports reported a decline of **-8.1%** YoY, much slower than the pace of passenger traffic fall, owing to the increased operation in all-freighter and cargo-only operations. **Hong Kong** remained at **1st** despite down by **-11.2**%. The sharpest fall was recorded in **Dubai** with **-32.2%**, followed by **Singapore** (**-19.2%**).

TOP 15 AIRLINE GROUPS (Ranked by RPK)

MAR 2020: -51.7% YoY in terms of RPK for the Top 15

In terms of RPK, the Top 15 airline groups accounted for 47.4% of the world's total RPK in March 2020 and declined by -51.7% YoY. This decline was +1.2 percentage points less than the world's average on scheduled services, with contraction in traffic of all airlines in the Top 15. **Ranking of the Top 15 airlines was distorted due to the different phase of impact of COVID-19 by region and State.**

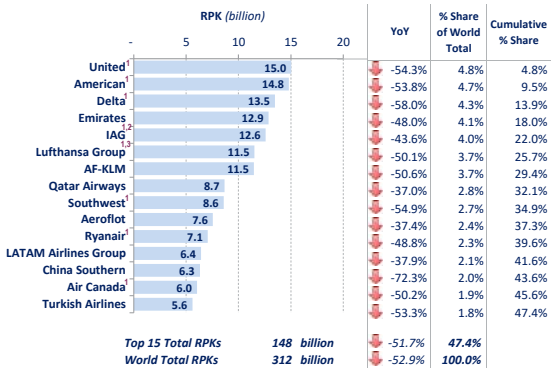
United went up 2 positions to **1st** albeit with a decline of **-54.3%**, followed by **American** and **Delta** contracting by **-53.8%** and **-58.0%**, respectively. **Southwest** fell by **-54.9%** and ranked down to **9th**. With a decline of **-50.2%**, **Air Canada** went down to **14th**.

Emirates tumbled by **-48.0%** and maintained its position at **4th**. **Qatar Airways** lifted 1 position to **8th** with a fall of **-37.0%**.

IAG and **Lufthansa** ranked up to **5th** and **6th** with **-43.6%** and **-50.1%** decline, respectively. **AF-KLM** fell sharply by **-50.6%**, and went down 2 positions to **7th**. **Aeroflot** appeared in the Top 15 and ranked **10th** with a fall of **-37.4%**. **Ryanair** ranked down to **11th** with a decline of **-48.8%**. With traffic more than halved, **Turkish Airlines** went down 4 positions to **15th**.

China Southern experienced the most precipitous decline with over two-thirds of its traffic evaporated. The airline, however, made it back to the Top 15 and ranked **13th**. **LATAM** remained at **12th** with a fall of **-37.9%**.

MAR 20



		YoY	% Share of World Total	Cumulative % Share
United	15.0	-54.3%	4.8%	4.8%
American	14.8	-53.8%	4.7%	9.5%
Delta	13.5	-58.0%	4.3%	13.9%
Emirates	12.9	-48.0%	4.1%	18.0%
IAG	12.6	-43.6%	4.0%	22.0%
Lufthansa Group	11.5	-50.1%	3.7%	25.7%
AF-KLM	11.5	-50.6%	3.7%	29.4%
Qatar Airways	8.7	-37.0%	2.8%	32.1%
Southwest	8.6	-54.9%	2.7%	34.9%
Aeroflot	7.6	-37.4%	2.4%	37.3%
Ryanair	7.1	-48.8%	2.3%	39.6%
LATAM Airlines Group	6.4	-37.9%	2.1%	41.6%
China Southern	6.3	-72.3%	2.0%	43.6%
Air Canada	6.0	-50.2%	1.9%	45.6%
Turkish Airlines	5.6	-53.3%	1.8%	47.4%
Top 15 Total RPKs	*148 billion*	*-51.7%*	*47.4%*	
World Total RPKs	*312 billion*	*-52.9%*	*100.0%*	

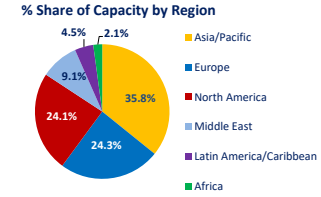
(Source: ICAO, airlines' websites)

***Note**: Total scheduled and non-scheduled services*

CAPACITY BY REGION *(ICAO Statistical Regions)*

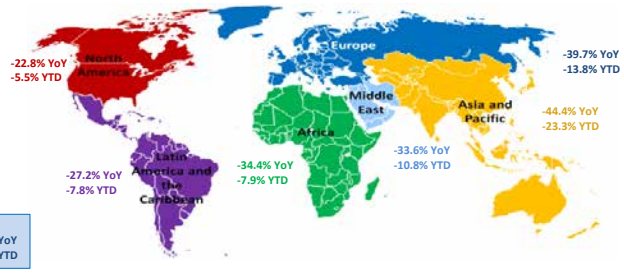
MAR 2020: -36.2% YoY in terms of World ASK

% Share of Capacity by Region



(Source: ICAO, IATA, OAG)

***Note**: Total scheduled services*



Worldwide capacity contracted by -36.2% YoY in March 2020. The decline in world capacity was driven by the drastic capacity reduction in all regions amidst the COVID-19 outbreak, most notably in **Asia/Pacific** and **Europe.**

Global capacity is expected to further shrink in the coming month as States geared up to contain the pandemic enforcing stringent travel restrictions and border closure.

* Embarked Passengers ** Loaded and Unloaded Freight inTonnes 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: **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.