

Annual Analyses of the EU Air Transport Market 2012

Executive Summary

December 2013
European Commission

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	22 Dec 2013	C.J. Collins	C.J. Collins	A. du Boulay	Executive Summary

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Content

Executive Summary

2012 Headlines at a Glance

	World	Europe	Units	Source
Passengers	2.9 billion (+5.5%)	**0.8 billion (+0.7%)**	Passengers carried	ICAO for World Eurostat for Europe (EU27)
Airline Demand (RPK)	+5.3%	**+5.1%**	Revenue Passenger Kilometres	IATA
Airline Capacity (ASK)	+3.9%	**+2.9%**	Available Seat Kilometres	IATA
Commercial Air Transport Movements	55.5 million (+0.8%)	**16.0 million (-1.5%)**	Airport Movements	ACI
Cargo (FTK)	-1.5%	**-2.9%**	Freight Tonne Kilometres	IATA
GDP	+3.2%	**-0.3%**	GDP growth (Europe = EU27)	IMF
Airline Profitability	$7.4 billion	**$0.4 billion**	Net Profits	IATA
Busiest Airport (Passengers)	Atlanta, U.S. (95.5 million)	**Heathrow, UK (70.0 million)**	Passengers	ACI
Commercial Jet Aircraft Fleet	23,611	**6,808**	Western and Russian-built Civil Airliner Jets	Flightglobal
Safety	21 accidents 426 fatalities	**0 accident 0 fatalities**	Commercial Airline (>5,700kg) Fatal Accidents & Fatalities	EASA

Foreword

2012 saw the global aviation industry continue its recovery as the worldwide economy shook off the worst of the impacts of the recent economic meltdown and fostered a more conducive environment within which air travel demand could grow. As a record 2.9 billion passengers took to the skies across the globe, airlines were rewarded for seat capacity control as demand outstripped supply and pushed up average loads.

Although airline net profits were slightly down compared to the previous year, it does show, at the very least, a level of stability that has been absent in recent years. But with average jet fuel spot prices rising 1.5% in 2012 versus 2011, the emphasis has once again been on reducing operating costs to balance the books.

As is becoming the norm, the global uptick in air travel demand was characterised in 2012 by regional variations in performance. In terms of traffic growth, it was the emerging markets in Asia Pacific, Latin America and the Middle East that continued to record the strongest increases, while the mature economies of the West experienced dampened yet solid demand, in line with the prevailing economic climate – which also had a negative impact on global air cargo volumes.

China, India and Indonesia in particular were the markets driving Asia Pacific into the dominant air transport region in 2012, ahead of Europe and North America in terms of air passenger traffic volumes. The latter two regions were being hindered by residual impacts of the ongoing but easing Eurozone economic crises, and low business and consumer confidence in the U.S.

There was also a regional disparity in airline financial results. The majority of the US$7.4 billion net profit reported by IATA member airlines was attributable to those members registered in the Asia Pacific and Middle East regions, while European carriers collectively posted a mere US$0.4 billion of that total. Within the total, however, there were major gains posted by Lufthansa, Ryanair and easyJet, but the European average was dragged down by the likes of Air France KLM and IAG Groups reporting major losses. The European air transport industry is still rationalising, with several established airlines folding in 2012 – notably Malev, Spanair and Cimber Sterling.

Socio-political events in North Africa and across the Middle East continued to impact the regions' air travel demand, although the major Middle Eastern airlines of Emirates, Qatar and Etihad showed no signs of abating their global ambitions.

The industry's green credentials are always the subject of much debate, but efforts continued in 2012 to develop better and more efficient ways of reducing the aviation's impact on climate change. 2012 was also the year when the aviation sector became officially included in the EU ETS. However, in November 2012 the EC 'stopped the clock' on the implementation of the international aspects of its ETS aviation by deferring the obligation to surrender emissions allowances from air traffic to and from the EU by one year.

Air travel keeps getting safer. At 21, the global number of commercial airline fatal accidents in 2012 is the lowest in recent history and represents a major achievement. The number of fatalities from these accidents in 2012 also represents a record low.

European passengers travelling on the region's main scheduled carriers enjoyed an overall improvement in on-time arrival performance, even as the continent's major airports suffer congestion.

The salient points of the 2012 industry review are highlighted in the executive summary that follows.

Traffic

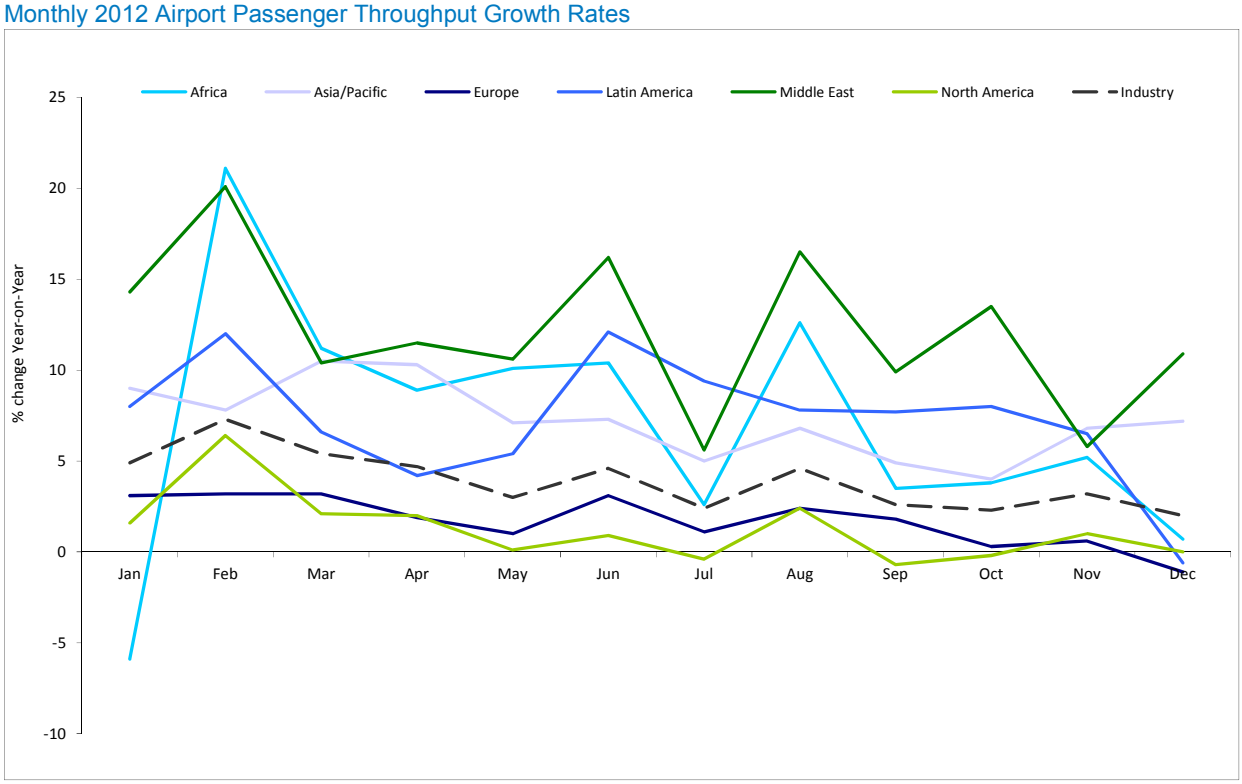
2012 was largely a positive year for air travel demand across the world regions.

The International Civil Aviation Organisation (ICAO) stated airlines of its 190 member states handled 2.9 billion passengers in 2012, a 5.5% year-on-year increase on 2011.

Air travel demand in 2012 was relatively uninterrupted by any major global events. Although there existed variations in the monthly growth rates versus the previous year, these were mainly attributable to the distorting effects of several major regional events during the course of that year, namely the North African / Middle East political uprisings and the Japanese earthquake. In North America, lower than expected business and consumer confidence hit air travel demand, while in Europe the impact of the economic downturn continued to be supressing growth in air traffic throughout the year.

When considering general trends in air travel demand, 2012 continues the pattern seen in previous years of European and North American growth lagging that of the Middle East, Asia Pacific and Latin America.

Monthly 2012 Airport Passenger Throughput Growth Rates



Source: ACI Monthly Worldwide Airport Traffic Reports, January-December 2012

International traffic (6.5%) grew at a faster pace in 2012 than domestic (3.9%). The largest international market in terms of share is Europe (39% of total International RPKs), followed by Asia Pacific (with 27% share). In 2012, these two regions achieved similar growth in international air traffic, but diverged significantly on the performance of their domestic markets. Growth in domestic airline RPKs in Europe was actually negative, albeit the size of the market is relatively small (8% share) compared to others. However, domestic traffic within Asia Pacific accounts for 35% of the global total (second only to North America), and

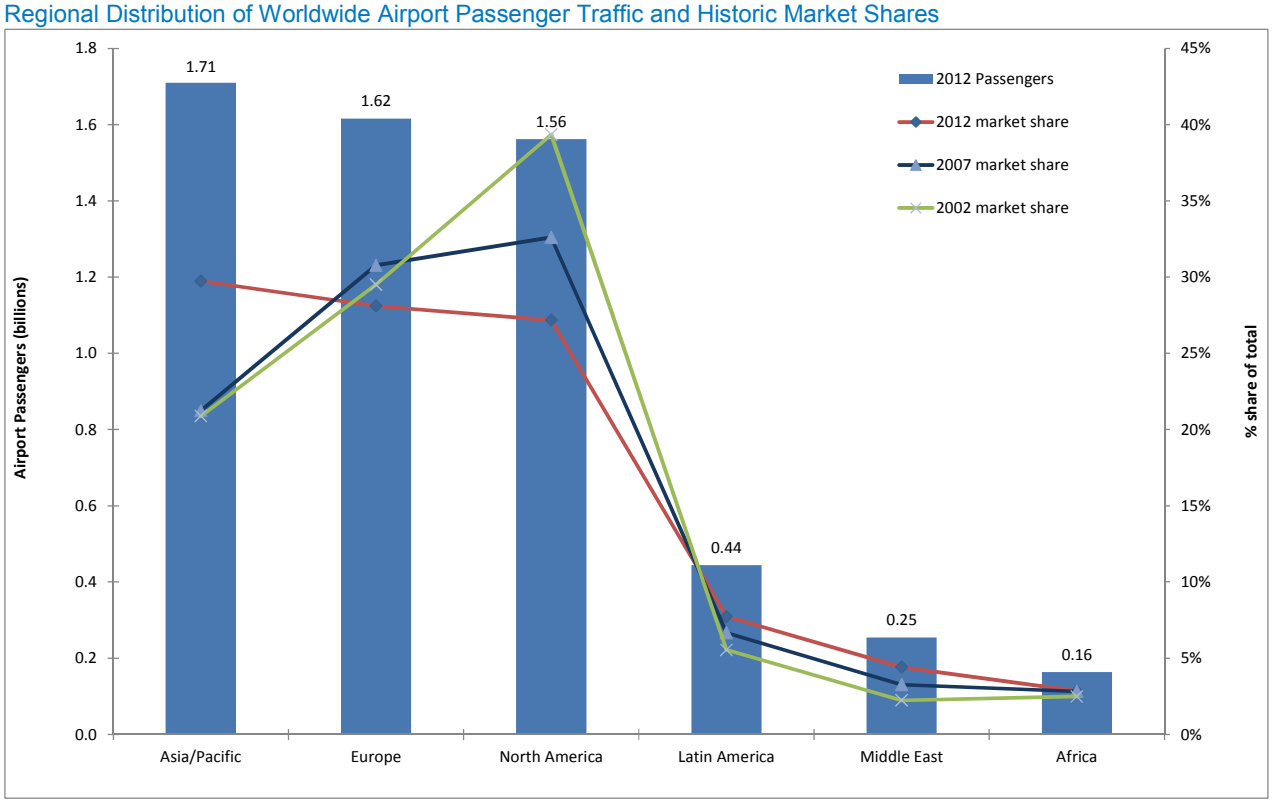
this segment grew at an impressive 8.8%. Within this segment, the fast-growing domestic markets of China, India and Indonesia all contribute to this overall expansion.

By analysing global airport passenger traffic data from ACI, we can observe that at the beginning of the previous decade, North America's airports commanded the greatest market share of passengers, reflecting both the pre-eminence of its domestic market and also the extent and development of its international network. The European market was a clear second, some distance behind North America but also significantly ahead of Asia Pacific, which, at this stage, was a relatively immature market yet to unlock its full potential.

Fast forward ten years to 2012 and the landscape has changed as Asia Pacific, dominated by vast, rapidly growing domestic markets in China, India and Indonesia, has transformed the region on the global stage. 2012, for the first time, saw Asia Pacific assume status as the leading global air transport market.

The Figure below serves to underline the shift in the focus of growth. As recently as 2002, North American airports dominated with a market share of global passenger throughput around 40%. Since then, European and to a greater extent Asia Pacific airports have eroded that dominance and gained market share to achieve parity, and eventually overtake by 2012.

Regional Distribution of Worldwide Airport Passenger Traffic and Historic Market Shares



Source: ACI Worldwide Airport Traffic Report

Compared to the North American and Asia Pacific market shares of global air passenger traffic, Europe's has remained fairly constant in the last decade, hovering around 30% since 2002 (falling to 28% in 2012).

During this period (2002-2012), European airports have increased passenger throughput at an average annual rate of 4.9%. When the peaks and troughs are ironed out, underlying growth of over 4% per year

represents a solid achievement for a mature air transport market, indicating the success of and further potential for growth into emerging markets.

However, Europe's growth must be put into context alongside the meteoric growth recorded by Asia Pacific airports over the same time period. This regions' market share of total global airport passenger throughput increased from 21% in 2002 to 30% in 2012, on the back of 9.2% average annual growth (nearly double that achieved by Europe's airports).

The market share gain made by Asia Pacific has been mainly at the expense of North America, and recently to a lesser extent, Europe. The saturated North American market has experienced sluggish growth between 2002 and 2012, growing at an average annual rate of 1.6%. Its market share reduced from 39% to 27% during this period.

This new power shift is set to continue with the Asia Pacific airports increasing in size and global importance, driven by the economic growth in China and India, as well as an increasing awareness by ASEAN of the importance of liberalisation in its air transport market.

Airport Financial Results

According to the ACI Economics Survey 2012, based on a response from 696 airports that collectively handled 3.76 billion passengers in 2011, or some 70% of global traffic in that year, worldwide total airport income in FY 2011/12 reached USD 108.2 billion, an increase of 2.4% on FY 2010/11.

The global airport industry enjoyed aeronautical revenues of USD 60.9 billion in FY 2011/12, an increase of 11%, achieving an overall net profit of €3.3 billion. According to ACI, only the larger and medium sized airports are generally able to generate reasonable profits. Those European airports handling fewer than 5 million passengers per annum tend to make very small returns compared to the capital invested. 42.5% of European airports were loss-making in 2012.

In Europe, total airport revenues reached €33.2 billion in FY 2011/12. This is an increase of 9% over the previous year, and it is commensurate with traffic growth of 2010/11 (+7.3%). Excluding other revenues and ground-handling revenues, aeronautical revenues accounted for 59% of total airport revenues in 2011, with non-aeronautical revenues representing 41%.

Aeronautical revenues reached €16.2 billion in FY 2011/12 (+9%). These are mainly composed of airline-related charges (levied on a per aircraft basis), and passenger related charges (levied on a per passenger basis). The ratio of airline-related to passenger-related charges has shifted since 2008 significantly towards passenger-related charges and today 67% of aeronautical revenues are generated by the passenger.

In FY 2011/12, non-aeronautical revenues at European airports amounted to €11.2 billion. The single largest non-aeronautical revenue stream is the airport retail concession, accounting for 43% of non-aeronautical revenues. It is followed by property and rent (27%) and car parking (19%). Except for rental car concessions, revenues increased in all categories in absolute numbers.

Airlines

2012 saw continued growth in the World Air Transport market. IATA recorded growth of 5.3% of Revenue Passenger Kilometres (RPK) compared to 2011.

With an industry average of 79.1%, passenger load factors were 1% higher than in 2011, a result of the growth in RPKs remaining above growth in Available Seat Kilometres (ASKs) as airlines kept tighter control over the available capacity in the markets. Load factors for 2012 were above the corresponding months of 2011 for all but July where no change was recorded. As expected, PLF's were not uniform throughout the year, with the Northern Hemisphere Summer witnessing the highest load factors.

As is becoming a trend, the cost of jet fuel remained a key concern for airlines in protecting profitability in 2012. Jet fuel prices were volatile during the year with a marked drop during Spring, before prices recovered in August to the level seen at the start of the year.

Air Fares were at a lower level in 2012 compared to 2011, partially as a result of the slightly reduced fuel costs in the early part of the year.

In 2012, industry-wide net profits of some US$ 7.4 billion are marginally lower than those recorded in 2011, but this still represents a reasonable outcome when compared against recent historical results. The core reason for the dip in net profits in 2012 is that again, the rise in expenses (7.0% year-on-year) outstripped that of revenues (6.9%), with high fuel costs the main contributory factor accounting for 32% of total costs in 2012 although Non-fuel expenses also continued to rise.

Of the European airline failures in 2012, Malev and Spanair are among the most significant. When Malev was declared insolvent in February of 2012, the impact was felt at the airline's base, Budapest, as passenger traffic declined 13% in February versus 2011. The collapse in January 2012 of Spanair, whose base was at Barcelona (BCN), would have impacted traffic levels more severely at that airport had other carriers not offset the decline by increasing capacity. Cimber Sterling and Wind Jet, the Danish and Italian carriers that also ceased operations in 2012, had similar impacts on passenger traffic levels at their base airports.

Global Air Cargo Growth

According to IATA, its member airlines collectively recorded a decline in air cargo traffic – measured in Freight Tonne Kilometres (FTKs) – of 1.5% in 2012 over 2011 levels, further compounding the decline of 0.6% the previous year. IATA cites a sharp slowdown in world trade growth and shifts in commodity mix favouring sea transport as being responsible for placing further downward pressure on air cargo demand.

Airlines in all regions were affected, with the exception of African and Middle Eastern carriers who witnessed FTK growth of 7.1% and 14.7% respectively, supported by new trade links between Africa and Asia.

The worst affected region was Asia Pacific, with airlines seeing a 5.5% contraction in air cargo traffic in 2012. In terms of global trade, Asia Pacific is a major manufacturing centre and source of outbound cargo to keys markets in Europe and North America. Demand for manufactured commodities in these two regions was weak throughout 2012, giving airlines of Asia Pacific, Europe and North America fewer goods to transport.

The beginning of 2012 saw a reduction in International freight in most markets, although the decline on the North Atlantic was not as pronounced as in other regions. A recovery was evident just after the dip in January 2012 but aside from a small positive variance in the North and Mid Pacific markets between July and September 2012 all markets remained challenging.

IATA noted that growth was experienced by airlines in Africa and the Middle East, but routes between North America and Central America remained in decline throughout much of the year. There was a notable recovery in the latter months of 2012 with significant growth experienced in the North America – South America, within South America and Africa – Middle East. All three are rapidly developing marketplaces with expanding based airlines.

In its air cargo market analysis for 2012, IATA suggests that the business environment for air cargo declined in 2012 again because of flat trade indicators and confidence. The deepening Eurozone crisis also further reduced demand against a backdrop of general weakness of the economies of developed countries.

Forecasts

A short term passenger traffic forecast for the period 2013 to 2015 was produced by ICAO in 2013, using 2012 preliminary figures as a base. ICAO expects global growth in 2013, 2014 and 2015 of 4.8%, 5.9% and 6.3% respectively. In the previous forecast for 2013 and 2014 the projected growth was of 6.0% and 6.4%, so ICAO has revised downwards its expectations of air passenger growth.

The Middle East is projected to be the fastest growing region, attributable to its carriers' performance with ever-increasing market share gains. The Middle East is followed by Latin America, Asia Pacific and Africa. Europe is projected to grow faster than North America, albeit this growth will be slower than in the emerging markets.

ICAO – RPK Annual Growth Rates Forecast

Region of Airline Registration	History		Forecast		
	2011 (%)	2012* (%)	2013 (%)	2014 (%)	2015(%)
Europe	9.5	3.9	4.4	5.5	6.2
Africa	0.9	4.2	5.2	5.7	6.0
Middle East	9.2	13.7	10.2	11.2	10.8
Asia Pacific	6.8	6.4	5.5	6.4	6.8
North America	2.4	1.3	2.3	3.3	3.8
Latin America/Caribbean	11.1	8.6	7.6	8.7	8.0
World	**6.5**	**4.5**	**4.8**	**5.9**	**6.3**

Source: ICAO Medium Term Forecast 2012 *Preliminary figures

Boeing and Airbus have both produced a broad long term global market forecast for the period 2013 to 2032 using 2012 as the base year.

Boeing & Airbus Forecast Comparison

	Boeing	Airbus
RPK (trillion) 2012	5.5	5.5
RPK (trillion) 2032	14.6	13.9
Total Growth 2012 – 2032	164%	151%
Average Annual Growth Rate	**5.0%**	**4.7%**

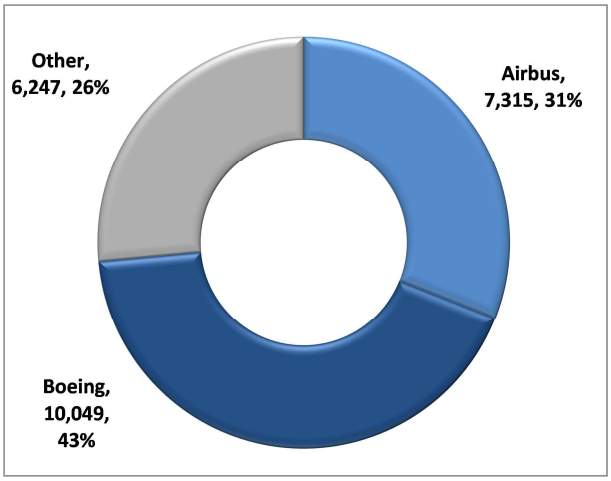
Source: Boeing, Airbus

Eurocontrol's medium term base case for flight movement growth in Europe is forecast to be 11.2 million in 2019. This figure is 17% more than in 2012. The weakness of the economic situation in Europe and the financial difficulties of carriers are reflected as in the first year of the forecast a decline of 1.3% is predicted (whereas the low case scenario would see a decline of 2.9% in 2013). For the years between 2014 and 2019 growth is expected to recover to 2.9% per year. However, the 2008 peak of 10.1 million flights is now expected to be overtaken only in 2016. In its previous forecast (September 2012) EUROCONTROL expected that this threshold would be achieved in 2015; therefore it is indicating a slower rebound of traffic in the region, with an annualised growth rate of 2.3% expected between 2013 and 2019.

Aircraft Fleets

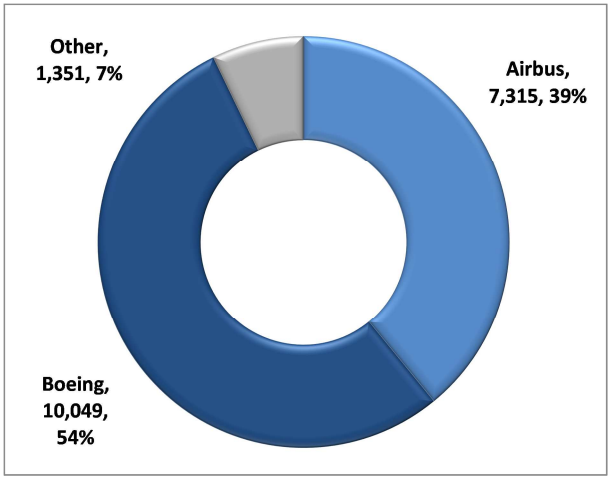
As of December 2012, Boeing and Airbus aircraft make up nearly three quarters of the global fleet market share for civil airliner jets (which comprise regional, narrowbody and widebody aircraft, excluding turboprops), with Boeing accounting for a greater share of the total (43%) compared to Airbus (31%), which was the same the previous year. The remaining 26% is dominated by Embraer and Bombardier as active manufacturers in the regional jet sector.

Share of Global Civil Airliner Jet Fleet 2012



Source: Flightglobal ACAS

Share of Global NB & WB Jet Fleet 2012

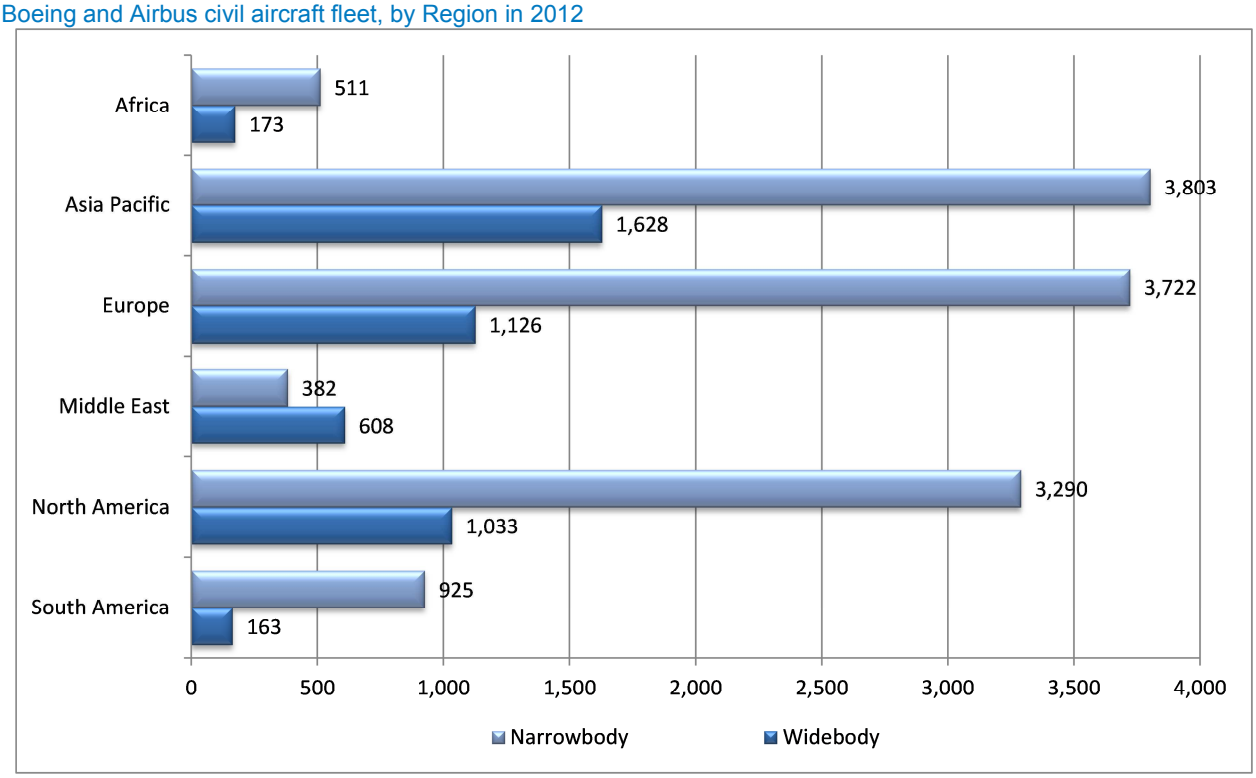


Source: Flightglobal ACAS

The Figure below shows the consolidated Boeing and Airbus aircraft fleets by narrowbody and widebody categorisation, by world region. The continued rise of low cost carriers (LCCs) and growth of hub and spoke networks has supported the continued popularity of narrowbody aircraft. Narrowbody aircraft have dominated Boeing and Airbus order books in recent years.

Boeing reports that, in Europe, single aisle aircraft will account for 70% of new deliveries through to 2032. By comparison the greatest concentration of the widebody (twin aisle) fleet can be found in Asia Pacific, where the long distances involved in some city pairs suit medium- to long-haul, high capacity models. Nevertheless, the burgeoning LCC (Low-Cost Carrier) growth in the Asia Pacific region is contributing to 69% of new aircraft deliveries by 2032 being narrowbody aircraft.

Boeing and Airbus civil aircraft fleet, by Region in 2012



Source: Flightglobal ACAS

Air Traffic Management

Now that the initial Reporting Period 1 (RP1) of the SES II Performance Scheme has started, focus has moved onto the assessment of current performance and on the proposed regulatory and performance target setting approach for the next reporting period, RP2, which runs for five years from 2015 to 2020.

Although revised performance plans collectively still fell short of EU-wide targets for RP1 by a small margin, the Performance Review Body (PRB) concluded that States had made a major collective effort to close the gap in terms of capacity and cost-efficiency and that this would result in savings of some €2.4 billion over RP1 compared to the 2009 unit rate baseline. The PRB also concluded that the Network Management function was making an adequate contribution to the EU-wide targets. However, in terms of the development of Functional Airspace Blocks (FABs), only two out of nine had been fully established in advance of the December 2012 deadline.

In November 2012, the European Commission said that there was little evidence of FABs contributing towards an integrated and defragmented airspace and warned that Europe was still a long way from creating a single airspace. In 2013, the Commission will present proposals to make sure the nine FABs deliver real operational improvements.

In 2012, a 2nd edition of the European ATM Master Plan was issued and further developments were made in determining the set up sequence for the SESAR Deployment Phase due to start in 2015. Guidance material has been issued on how common projects should be set up, governed and implemented.

2012 saw many ATM technical developments including the world's first four dimensional optimised flight and several pioneering operational projects providing safety improvements to airport approach control and landing. There was also significant progress towards the development of a Roadmap to achieve the safe integration of Remote Piloted Aircraft Systems (RPAS) into civil airspace.

EU External Aviation Policy

In 2012, the European Commission launched a review of the EU's external aviation policy and presented a Communication COM(2012)556, entitled "The EU's External Aviation Policy – Addressing Future Challenges". The review scrutinised the Road Map's objectives and provided an update of progress made since its development.

The Road Map was based on three defining pillars:

1. Bringing existing bilateral air services agreements between EU Member States and third countries in line with EU law;

2. The creation of a true Common Aviation Area with the neighbouring countries;

3. The conclusion of aviation agreements with key strategic partners.

In line with these three pillars, the Commission has been working to enhance aviation relations with neighbouring countries and other key international partners. On 30 July 2012, the EU and Israel initialled a comprehensive aviation agreement, following eight rounds of negotiations since December 2008, culminating in a final round of negotiations in March 2012. A potential consequence of increased liberalisation in the EU-Israel market is growth in the low cost sector. In March 2012, LCC penetration on international routes to/from Israel[1] was a mere 7.3% of seat capacity, led by air berlin and easyJet. It has been suggested that LCCs may, however, be reluctant to increase operations into Israel due to the prohibitively high costs involved with the significant security procedures at Tel Aviv Ben Gurion airport.

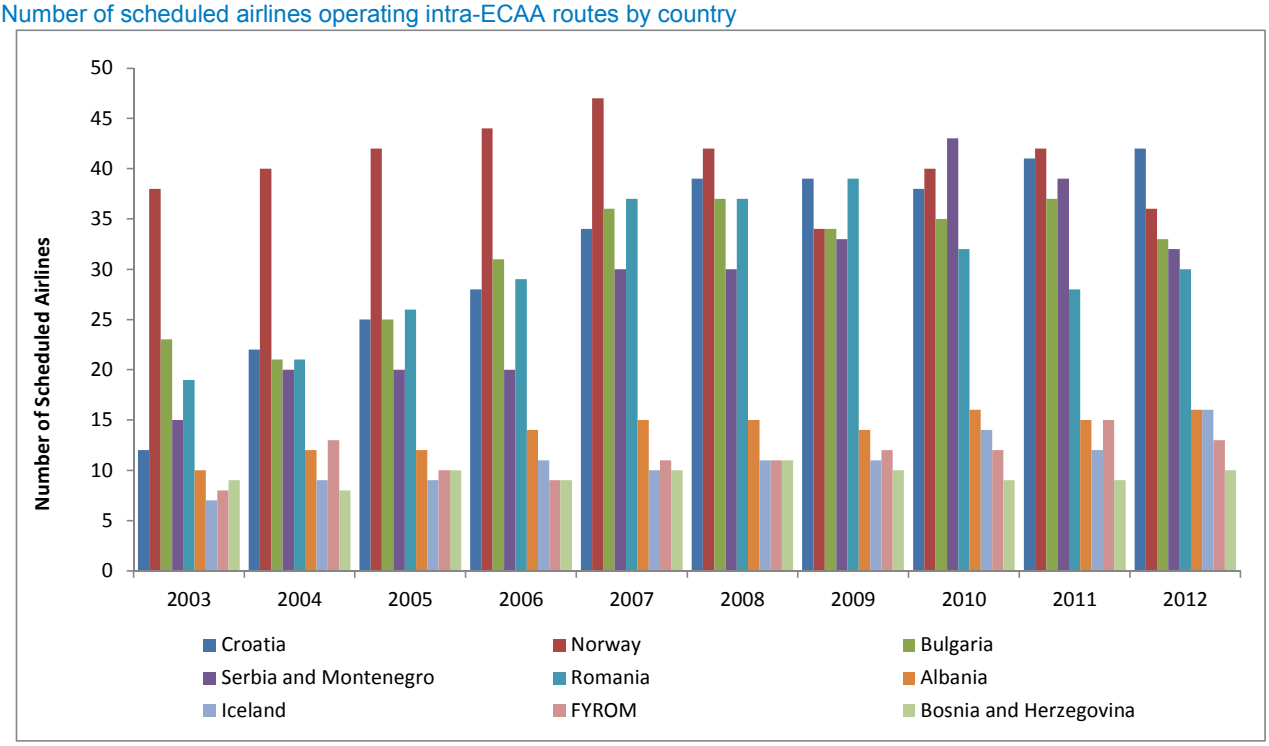
In June 2012, the Republic of Moldova and the EU signed a comprehensive air services agreement that will open up and integrate the respective markets, strengthen cooperation and offer new opportunities for consumers and airlines. With the establishment of the agreement, all EU and Moldovan carriers will be able to operate direct flights between the EU and Moldova.

Russia's aviation relationship with the EU exists in the form of individual Air Service Agreements with EU Member States. The vision is to develop a comprehensive EU-Russia agreement that will enhance cooperation and create material benefits for both parties. Irrespective of this, the Commission requested EU Member States to bring their bilateral agreements with Russia into line with EU law. Despite some progress, the main issues (acceptance of an EU designation clause and deletion of references to mandatory commercial agreements between designated air carriers) still remain to be resolved.

In terms of the expanded single aviation market creating increased competition in the post-2006 ECAA markets, the number of airlines operating intra-ECAA air services has been examined for the period 2003-2012 to observe the situation before and after ECAA expansion.

[1] CAPA; Israeli market set to open up under new open skies agreement with EU; 26/03/12
http://www.centreforaviation.com/analysis/israeli-market-set-to-open-up-under-new-open-skies-agreement-with-eu-70449

Number of scheduled airlines operating intra-ECAA routes by country



Source: OAG

It is quite noticeable from the Figure above that the ECAA markets examined have collectively witnessed a 'flattening' in levels of competition on intra-ECAA routes from 2006, with some exceptions.

Some of this may be attributable to the general economic climate post-2008 impacting negatively on air travel demand, and some of the stagnation in competition levels may be due to consolidation and airline bankruptcies.

However, at a high level, it is important to note that the level of competition in the ECAA markets, overall, has grown significantly between 2003 and 2012, which must in some part be attributable to joining the Common Aviation Area as market-opening will have stimulated demand and encouraged more carriers to enter those markets.

Competition Issues

In terms of investigation of alleged State aid and enforcement of State aid rules with regard to airports and airlines, the following developments took place in 2012:

1. During 2012, the Commission adopted 37 decisions concerning the financing of airports and their interaction with airlines, passenger tax schemes, or the restructuring of airlines. About two thirds of these decisions related to regional or sectoral developments concerning airports and the other third were related to individual airlines or groups of airlines. 16 Member States were implicated in the decisions, with half the cases relating to either France or Germany.

2. Of the 37 decisions, 14 related to existing cases and 23 to new cases. For the existing cases, 6 concluded that the financing did not constitute State Aid, 3 resulted in a decision to extend

proceedings while the remainder related to corrigenda to the wording of previous decisions. For the new cases, 10 resulted in a decision not to raise objections while 13 resulted in a decision to initiate a formal investigation procedure. These decisions relate to over 60 on-going state aid investigations in the aviation sector.

In terms of airline acquisitions and mergers, in March 2012 the Commission cleared under the EU Merger Regulation the acquisition of UK airline bmi by IAG, the holding company of British Airways and Iberia. In July 2012, the Commission opened an in-depth investigation into the proposed acquisition of TNT Express by UPS, both major players in the express package delivery sector. Due to competition concerns, the decision to prohibit the merger followed in January 2013. In August 2012, the ongoing proposed acquisition of Aer Lingus by Ryanair was considered and assessed in detail by the Commission, and rejected in February 2013 due to concerns over the creation of a dominant competitive position in the Irish market.

EU Emissions Trading Scheme

On 1st January 2012, the aviation sector became officially included in the EU ETS. The system covers all the CO^2 emissions from flights departing from or arriving at EU airports (and extended to include EEA states). Aircraft operators will be required to monitor and report their emissions on an annual basis, and then surrender the equivalent number of allowances to their annual emissions. The scheme is designed to allow the aviation industry to grow sustainably whilst at the same time ensuring it pays commensurately for its emissions.

The emissions cap for aviation in the EU ETS for 2012 was set at 97% of the average emissions between 2004 and 2006, falling to 95% of the historic baseline from 2013 to 2020. In this cap, 85% of the allowances will be allocated for free, including 3% of allowances in a special reserve for new or rapidly growing aircraft operators.

However, on 12 November 2012 the European Commission issued a press statement declaring that, in agreement with the 27 EU Member States, it is ‘stopping the clock’ on the implementation of the international aspects of its ETS aviation by deferring the obligation to surrender emissions allowances from air traffic to and from the EU by one year.

However, the obligations relating to all operators’ activities within the EU (i.e. on intra-EU services) are to remain intact and this will be enforced in line with EU law.

The Commission made the decision following news from the ICAO Council that progress had been made in reaching agreement on establishing a path towards a global solution to reduce aviation greenhouse gas emissions. Specifically, the ICAO Council agreed to form a special High-level Group to provide recommendations on the feasibility of a global market-based measure (MBM) scheme appropriate to international aviation, as well as its development of a policy Framework to guide the general application of any proposed MBM measures to international air transport activity.

Citing that ‘stopping the clock’ would create space for the political negotiations required to formulate a global solution, the Commission stressed that in the event of the ICAO Assembly failing to move forward the EU ETS legislation would be applied in full again from 2013 onwards.

The moratorium for international flights did not, however, remove the requirement on all airlines operating at EU airports to provide emissions data, due by the end of April 2013. By May 2013, according to reports, the European Commission stated that "aircraft operators responsible for over 98% of the 2012 aviation

emissions covered by the EU ETS have successfully taken the necessary steps to date to comply with the EU ETS legislation".

Environment

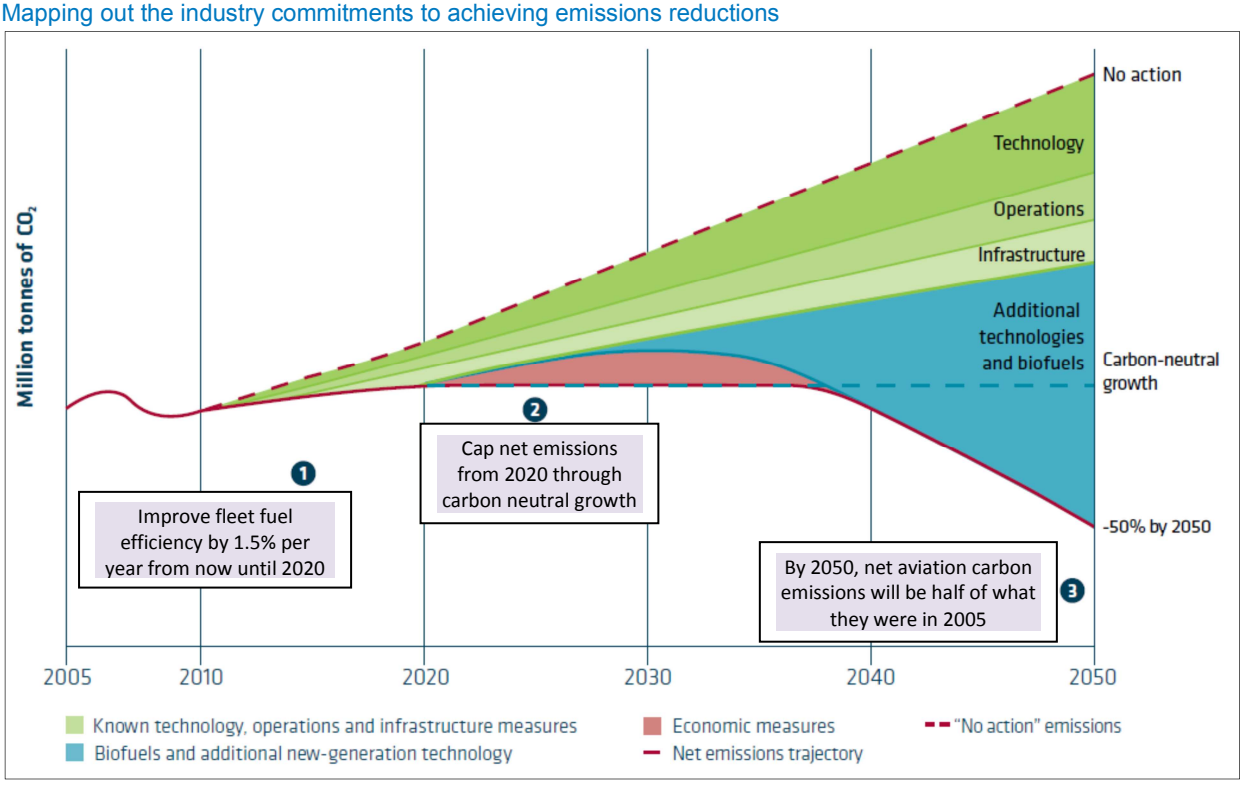
In June 2012, Rio de Janeiro hosted the United Nations conference on sustainable development (UNCSD), the Rio +20 conference. ICAO was an active participant at this event and showcased some of the developments that aviation as an industry has achieved and is aspiring to achieve. Indeed, ICAO marked the event by laying on a landmark series of connecting commercial flights powered by sustainable alternative fuels starting in Montreal and finishing the journey in Rio, carrying the ICAO Secretary General, other dignitaries, media and ordinary passengers.

The SESAR Joint Undertaking collaborates with the US Federal Aviation Administration (FAA) and a number of European and North American partners in an international programme for the reduction of aircraft emissions (AIRE - Atlantic Interoperability Initiative to Reduce Emissions). In 2012, nine new projects were selected as part of the AIRE 3 cycle taking place from 2012 to 2014.

In its November 2012 position paper, "A Sustainable Flightpath Towards Reducing Emissions", ICAO reaffirmed the industry's commitment to achieve a pathway to carbon-neutral growth. The organisation recognised that to achieve the targets the industry has set itself requires a multi-faceted approach and commitment from all stakeholders.

Achieving emissions reductions will focus on the four pillars of Technology, Operations, Infrastructure and Economic Measures. The aviation industry's commitments are mapped out, as shown in the Figure below.

Mapping out the industry commitments to achieving emissions reductions



Source: ICAO

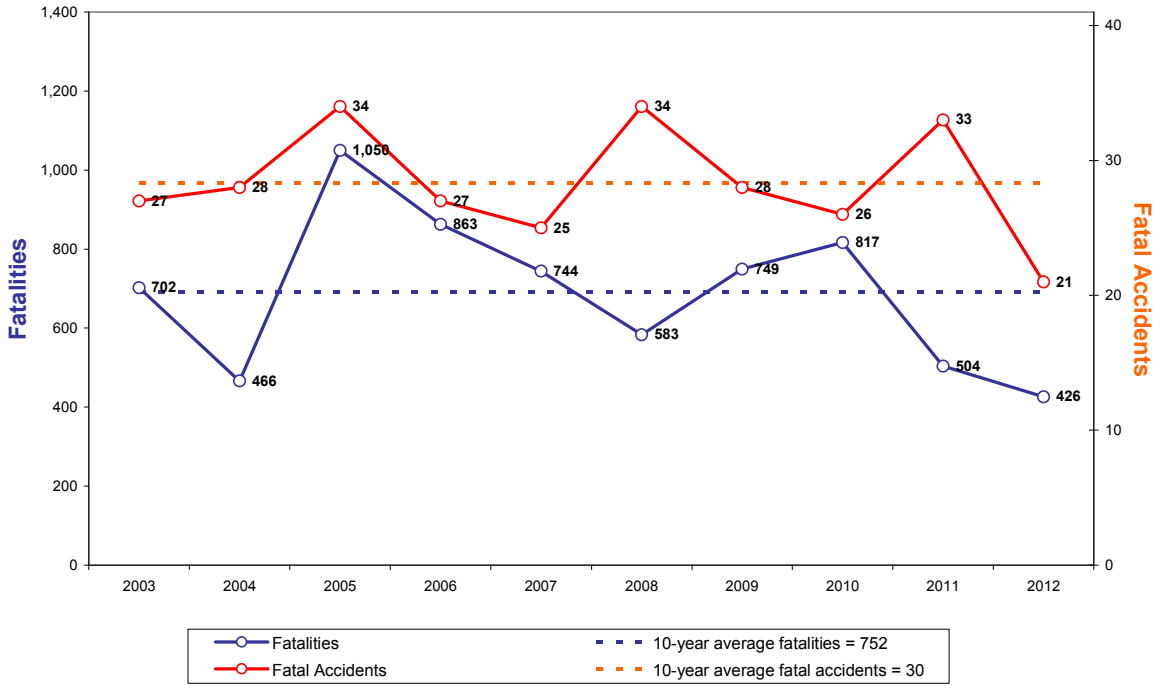
Safety

In 2012, there were 21 fatal commercial airline accidents worldwide causing the deaths of 426 passengers and crew. This spans all types of commercial airline operations, including scheduled and non-scheduled passenger flights, by jets and turboprop aircraft greater than 5,700kg; and non-passenger operations such as cargo or positioning flights. By comparison, in 2011, there were 33 fatal commercial airline accidents causing 504 deaths.

At 21, the global number of commercial airline fatal accidents in 2012 is the lowest in recent history and represents a major achievement. The number of fatalities from these accidents in 2012 also represents a historic low. But it is too early yet to say whether this part of a new declining trend.

Of the 21 fatal accidents in 2012, 5 (24%) occurred during take-off or climb, 2 (10%) en route and 14 (67%) during approach or landing. The 2012 percentages of fatal accidents by phase of flight show a higher proportion of accidents during approach and landing compared to 2011, but a lower percentage of accidents in the en route phase.

World Commercial Airline Fatal Accidents and Fatalities 2003 to 2012



Source: Flight International based on Ascend/Flightglobal

Although 2012 has been an exceptional year in statistical terms, the accident record still demonstrates many of the characteristics of recent years in that the serious accidents are occurring in airlines whose names are unknown outside their local regions, most of them in developing economies. The safety performance disparity between established carriers (such as IATA member Airlines) and others appears to be growing.

One of the regions of most concern is Africa which saw nearly a 60% increase in the hull loss accident rate from 8.1 accidents per million flights in 2011 to 12.7 accidents per million flights in 2012. In December 2012, IATA reported that the African accident rate had varied between 3 and 12 times worse than the world average – yet its traffic only constituted a 2.5% to 3.5% share of global traffic.

Air Cargo Security

Around 50 million tonnes of air cargo were transported in 2012, representing around 35%, by value, of global trade. Over half of that air cargo was transported on passenger aircraft.

On 1 February 2012, Regulation (EU) No 859/2011 regarding security measures on air cargo and mail coming from non-EU countries became applicable. This Regulation provided a basic framework for the designation of EU and non-EU air carriers as so-called ACC3, which allows them to carry cargo or mail into the Union from a non-EU airport. The Regulation also introduced rules for air cargo and mail being carried to Union airports from those so-called third countries in order to:

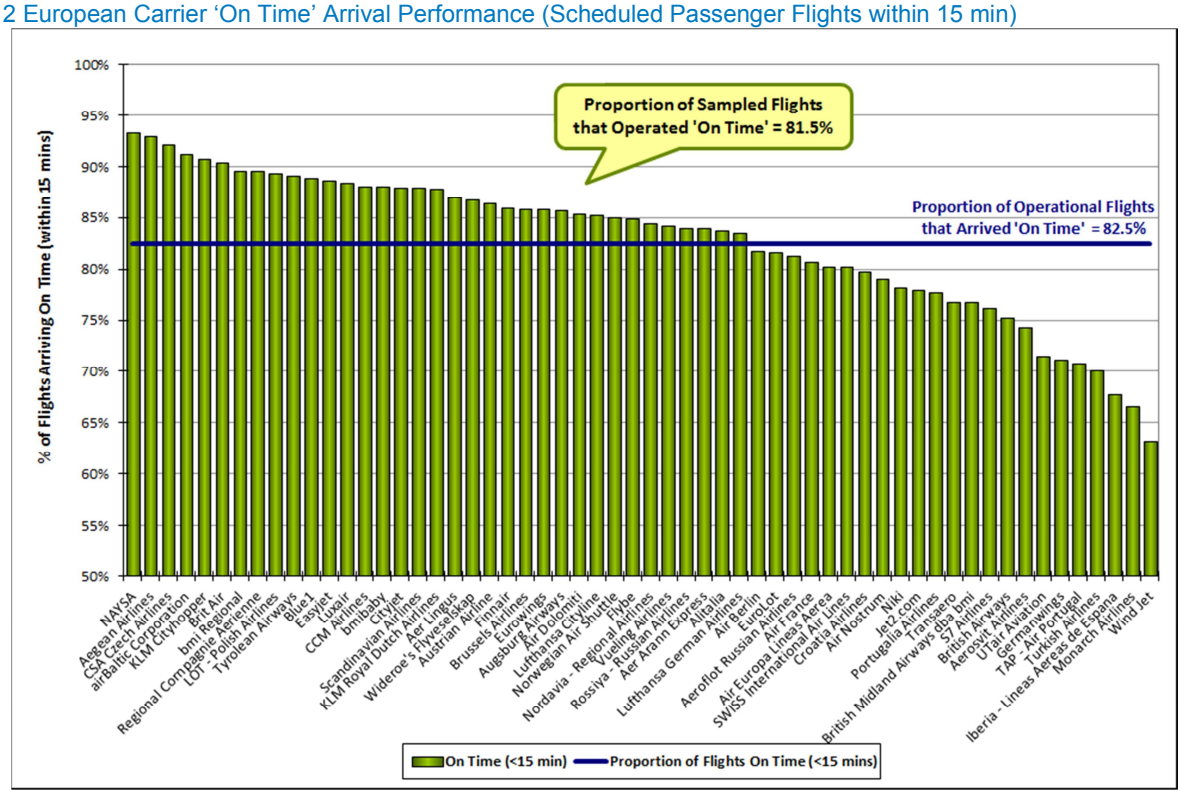
- Protect civil aviation that was carrying such cargo or mail from acts of unlawful interference; and,
- Work towards achieving enhanced cooperation on aviation security, supporting the implementation and application of standards and principles in third countries equivalent to those of the Union where this was effective to meet global threats and risks.

Punctuality and Delays

Airlines

The figure below reflects the annual arrival performance of European carrier scheduled flights, as sampled and reported by FlightStats. Whilst the overall average proportion of all operating flights (planned flights, after excluding those cancelled & diverted) that arrived ‘On Time’ in 2012 was 83%, the median indicates that 85% of all scheduled flights arrived ‘On Time’. Cancelled and diverted arriving flights accounted for 1.1% of total sampled flights.

2012 European Carrier 'On Time' Arrival Performance (Scheduled Passenger Flights within 15 min)



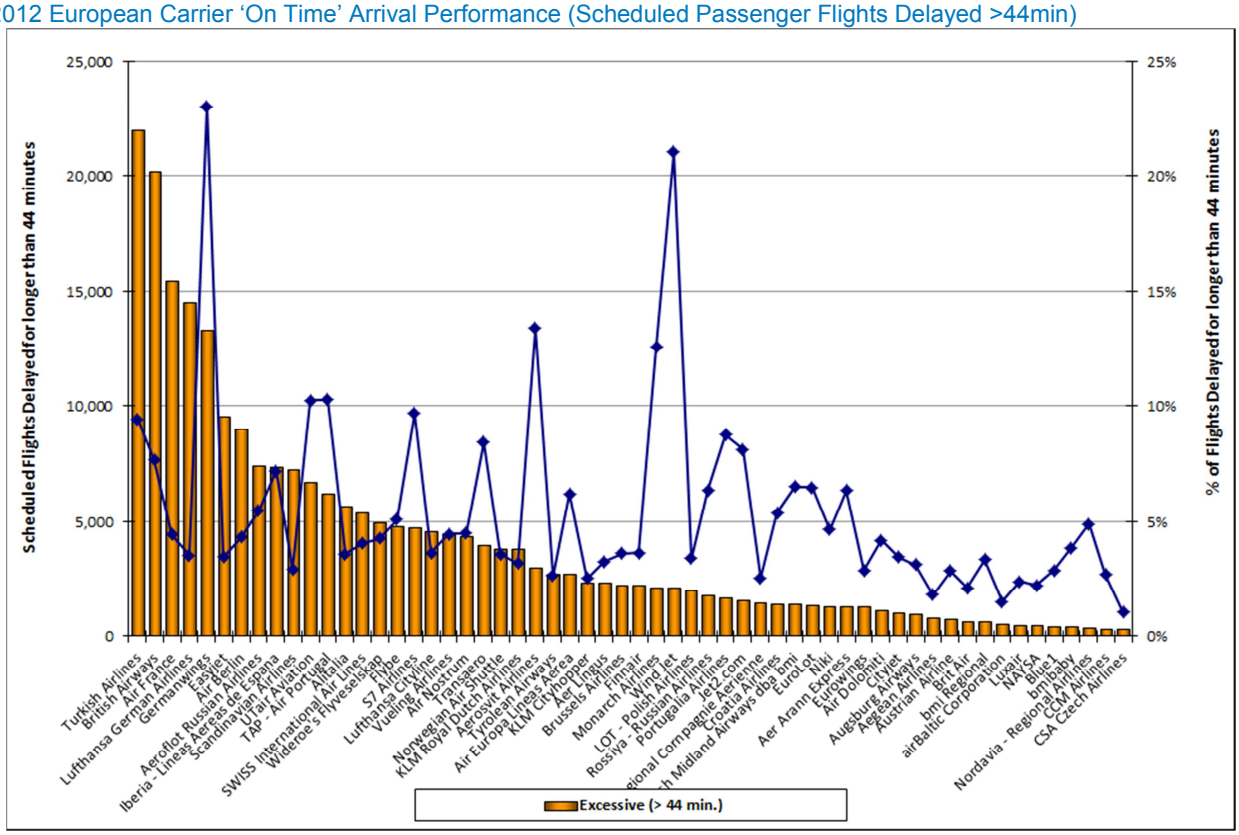
Source: www.flightstats.com

The European carriers appearing top of the list achieving 'On Time' punctuality performance in excess of 90% of scheduled operations were NAYSA, Aegean Airlines, CSA Czech Airlines, Air Baltic, KLM Cityhopper & Brit Air. In contrast, the five carriers ranked at the bottom half of the performance table achieved overall average 'On Time' punctuality equal to 69.4%; a 22 percentage point difference vs. the ''On-Time'' punctuality of the top European performers.

The overall punctuality results indicate a 1.3 year-on-year percentage point improvement in arrival punctuality performance across all sampled operational scheduled flights. The European carriers that recorded the highest percentage point improvement versus last year are Iberia (+15.5%), Air Europa (+9.1%) and Lufthansa Cityline (+8.5%). Despite Iberia's notable improvement in punctuality performance, the carrier is still positioned at the lower half of the performance table. In the opposite end of the spectrum, the airlines whose performance notably declined compared to 2011 are: Germanwings, TAP Air Portugal and Turkish Airlines, which respectively recorded a 13.7%, a 6.3% and 5.6% points decline in the share of arrival flights arriving 'On Time'.

In addition to data for 'On Time' arrivals (flights arriving within 15 minutes of the scheduled time), FlightStats also collects data for longer delays, cancellations and diversions.

2012 European Carrier 'On Time' Arrival Performance (Scheduled Passenger Flights Delayed >44min)



Source: www.flightstats.com

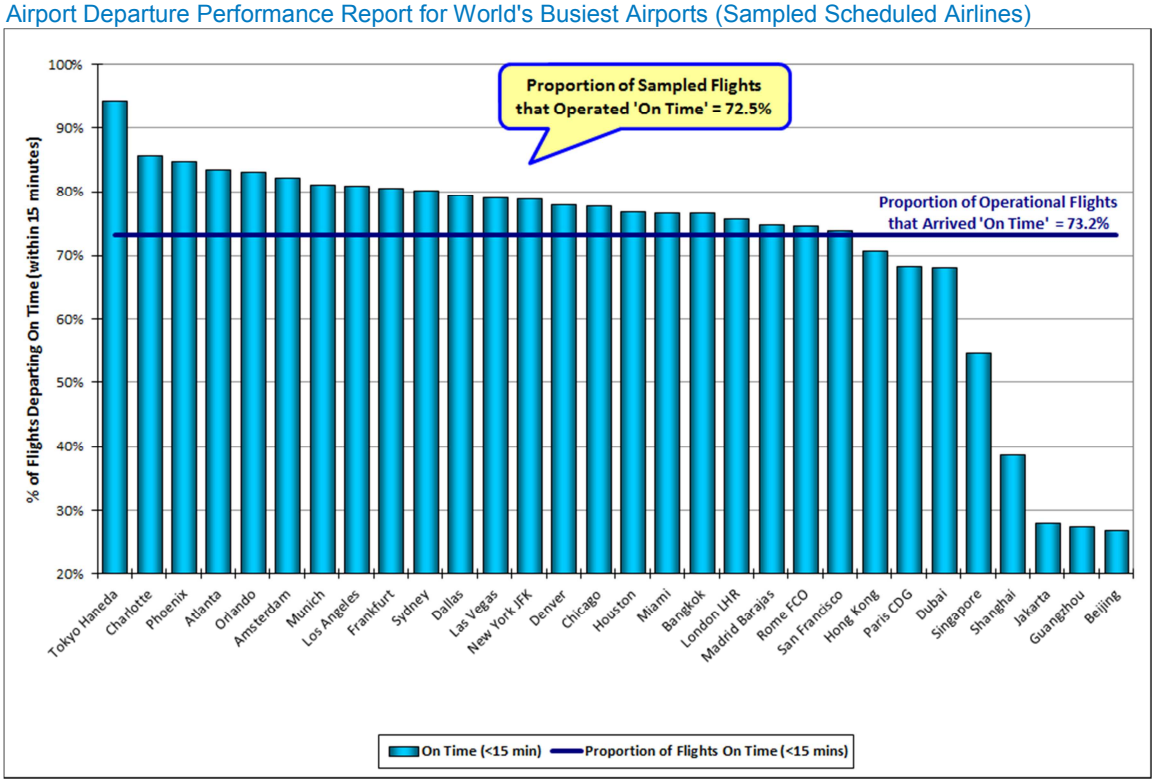
Airlines with the highest volume of long delays were Turkish Airlines (TK), British Airways (BA), Air France (AF), Lufthansa (LH) and Germanwings (4U). BA, AF and LH also appeared in the top five European carriers for 'Excessive Delays' for the previous year. The first four carriers are full service network airlines operating a hub and spoke business model from major European hub airports. Airport delays can be attributed to the airports themselves due to airspace congestion in the surrounding area as well as runway and infrastructure capacity issues in some cases. However, these longer delays should be taken in the wider context of the proportion of flights operated. Of the carriers mentioned, the share of TK flights experiencing excessive delays is 9% of overall arriving flights, with the same figure for BA being at 8% of arrivals, while the excessive flights quoted for AF and LH only reflect 4% of their arriving operations. For Germanwings on the other hand, almost one in four flights arrives 44 minutes after the scheduled arrival time.

Airports

In 2010, no European airports appeared in the top twenty; in 2011 this situation improved with London Stansted coming second after top global performer Tokyo Haneda, with Amsterdam and Munich also recording significant improvements. In 2012, the list was amended to reflect performance results from the top 30 world airports (vs. the top 50 in the previous years). In 2012, the main network carrier European hub airports (Amsterdam, Frankfurt, Heathrow, Paris CDG and Madrid) achieved between them an average ''On-Time'' departure punctuality of 76.3%. This reflects a collective improvement of 2.7% point on 2011, and 8.9% vs. 2010. The best European 'hub' performance was achieved by Amsterdam for the second consecutive year, with 82.3% (+1% point YoY) of departures on time. The four airports achieving the

highest YoY improvement in punctuality performance on departing flights out of major North American Airports were: Miami (+21.5% points YoY), Dallas (+21.3% points YoY), Chicago (+13.2% points YoY) and New York JFK (+9.8% points YoY). In contrast, departure punctuality significantly declined for the major South East Asian airports of Jakarta (-57% points YoY), Guangzhou (-11.6% points YoY), Beijing (-7.8% points YoY) and Bangkok (-7.2% points YoY).

2012 Airport Departure Performance Report for World's Busiest Airports (Sampled Scheduled Airlines)



Source: www.flightstats.com

Glossary

AACO	Arab Air Carriers Organisation
AAGR	Average Annual Growth Rate
AAPA	Association of Asia Pacific Airlines
ACARE	Advisory Council for Aeronautics Research in Europe
ACAS	AirCraft Analytical System
ACCC	Australian Competition and Consumer Commission
ACI	Airports Council International
ACL	Airport Coordination Limited
AdP	Aéroports de Paris
ADS-B	Automatic Dependent Surveillance-Broadcast
AEA	Association of European Airlines
AED	UAE Dirham
AEG-SEC	APEC Aviation Security Sub Group
AFRAA	African Airlines Association
AFTK	Available Freight Tonne Kilometres
AIA	Aerospace Industries Association of America
AIAC	Aerospace Industries Association of Canada
AIRE	Atlantic Interoperability Initiative to Reduce Emissions
AIS	Aeronautical Information Service
ALTA	Latin American and Caribbean Air Transport Association
AMC	Acceptable Means of Compliance
AME	Aircraft Maintenance Engineer
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider
APAM-AVSEC	Asia Pacific Ministerial Conference on Aviation Security
AP-ASAP	Asia-Pacific Aviation Security Action Plan
APD	Air Passenger Duty
APEC	Asia Pacific Economic Cooperation
APR	Air Passenger Rights
ASD	AeroSpace and Defence Industries Association of Europe
ASEAN	Association of Southeast Asian Nations
ASK	Available Seat Kilometre
ASPIRE	Asia Pacific Initiative to Reduce Emissions
ASR	Air Services Regulation
ASSA-I	Aviation Security Services Association – International
ATA	Air Transport Association of America
ATAG	Air Transport Action Group

ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATFCM	Air Traffic Flow & Capacity Management
ATFM	Air Traffic Flow Management
ATI	Air Transport Intelligence
ATM (1)	Air Traffic Management
ATM (2)	Air Transport Movement
ATOL	Air Travel Organiser's Licence (UK)
ATR	Aerei da Trasporto Regionale or Avions de Transport Régional
ATS	Air Traffic Services
AVIC	China Aviation Industry Corporation
BA	British Airways
BAA	BAA Airports Ltd
BALPA	British Air Lines Pilot Association
BHX	Birmingham Airport
BMI	BMI British Midland
BRIC	Brazil, Russia, India & China
CAA	Civil Aviation Authority
CAAS	Civil Aviation Authority of Singapore
CAD	Canadian dollar
CAGR	Compounded Annual Growth Rate
CAN	Guangzhou Baiyun International Airport
CANSO	Civil Air Navigation Services Organisation
CAPA	Centre for Asia Pacific Aviation
CAT	Commercial Air Transport
CCD	Continuous Climb Departure
CDA	Continuous Descent Approach
CDG	Paris Charles de Gaulle Airport
CDM	Collaborative Decision Making
CEO	Chief Executive Officer
CFMU	EUROCONTROL Central Flow Management Unit
CFRP	Carbon Fibre Reinforced Plastic
CGK	Jakarta Soekarno-Hatta International Airport
CHF	Swiss franc
CLT	Charlotte Douglas International Airport
CNS	Communications, Navigation & Surveillance
CNY	Chinese yuan

CODA	EUROCONTROL Central Office for Delay Analysis
COMAC	Commercial Aircraft Corporation of China Ltd
CPA	Capacity Purchase Agreement
CRCO	EUROCONTROL Central Route Charges Office
CSU	Chargeable Service Units
CTTF	APEC Counter Terrorism Task Force
DBC	Denied Boarding Compensation'
DEN	Denver International Airport
DfT	UK Department for Transport
DGAC	Direction Générale de l'Aviation Civile
DHS	U.S. Department of Homeland Security
DKK	Danish krone
DME	Moscow Domodedovo International Airport
DOT	U.S. Department of Transportation
DSNA	Direction des Services de la Navigation Aérienne (France)
DXB	Dubai International Airport
EACCC	European Aviation Crisis Coordination Cell
EACP	European Aerospace Cluster Partnership
EADS	European Aeronautic Defence and Space Company N.V.
EAS	Essential Air Service
EASA	European Aviation Safety Agency
EBIT	Earnings Before Interest & Taxes
EBITDA	Earnings before interest, tax, depreciation & amortisation
EC	European Commission
ECAA	European Common Aviation Area
ECAC	European Civil Aviation Conference
ECR	European Central Repository for Aviation Occurrences
EDI	Edinburgh Airport
EEA	European Economic Area
EEC	European Economic Community (now the EU)
EGP	Egypt Pound
ELFAA	European Low Fares Airline Association
ENP	European Neighbourhood Policy
EOL	End of Service Life
EPZ	Enhanced Procedure Zone
EQF	European Qualification Framework
ERA	European Regions Airlines Association

ERAA	European Regions Airline Association
ETS	Emission Trading Scheme
EU	European Union
FAA	Federal Aviation Administration
FAB	Functional Airspace Block
FCO	Leonardo da Vinci-Fiumicino Airport
FHS	Flight Hour Services
FIR	Flight Information Region
FMS	Flight Management System
FTK	Freight Tonne Kilometres
FYROM	Former Yugoslav Republic of Macedonia
GAO	U.S. Government Accountability Office
GBP	British Pound Sterling
GDP	Gross Domestic Product
GDS	Global Distribution Systems
GHG	Greenhouse Gas
GIG	Rio de Janeiro-Galeão International Airport
GLA	Glasgow Airport
GM	Guidance Material
GPS	Global Positioning System
GSIC	IATA Global Safety Information Centre
GSIE	Global Safety Information Exchange programme
HKD	Hong Kong dollar
HKG	Hong Kong International Airport
HMV	Heavy Maintenance Visit
IACA	International Association of Charter Airlines
IAG	International Airlines Group
IATA	International Air Transport Association
IAVW	International Airways Volcano Watch
ICAO	International Civil Aviation Organisation
IFE	In-flight Entertainment System
IFR	Instrument Flight Rules
IMF	International Monetary Fund
INECO	Ingeniería y Economía del Transporte
INR	Indian rupee
IOSA	IATA Operational Safety Audit
IPO	Initial Public Offering

IPSOA	IATA Implementation Programme for Safety Operations in Africa
IVATF	International Volcanic Ash Task Force
JAL	Japan Airlines
JAXA	Japan Aerospace Exploration Agency
JCAB	Japan Civil Aviation Bureau
JFK	John F. Kennedy International Airport
JTI	Joint Technology Initiative
KPI	Key Performance Indicator
LAGs	Liquids, aerosols & gels
LAN	Línea Aérea Nacional de Chile (LAN Chile)
LCC	Low Cost Carrier
LCY	London City Airport
LGW	London Gatwick Airport
LHR	London Heathrow Airport
LP	Low pressure
LTN	London Luton Airport
MAD	Madrid Barajas Airport
MAG	Manchester Airports Group
MAN	Manchester Airport
MBM	Market Based Measures
MINT	Minimum CO_2 in the TMA
MLITT	Japanese Ministry of Land, Infrastructure, Transport & Tourism
MLW	Maximum Landing Weight
MM	Mott MacDonald
MRO	Maintenance, Repair & Overhaul
MTOW	Maximum Take-off Weight
MUC	Munich Franz Josef Strauss International Airport
MWO	Meteorological Watch Office
NAS	National Airspace System
NASA	U.S. National Aeronautics and Space Administration
NAT	North Atlantic Track
NATS	NATS Ltd (UK)
NB	Narrowbody Aircraft
NCL	Newcastle International Airport
NEB	National Enforcement Body
NFZ	No Fly Zone
NGSP	Next Generation Screening Process

NPRM	Notice of Proposed Rulemaking
NRT	Tokyo Narita International Airport
NSA	National Supervisory Authority
NTSB	National Transportation Safety Board
NWA	Northwest Airlines
OAG	Official Airline Guide
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OFT	UK Office of Fair Trading
ORD	Chicago O'Hare International Airport
ORY	Paris Orly Airport
PBN	Performance Based Navigation
PEK	Beijing Capital International Airport
PETN	Pentaerythritol tetranitrate
PRB	SES Performance Review Body
PRC	EUROCONTROL Performance Review Commission
PRM	Person of Reduced Mobility
PRR	EUROCONTROL Performance Review Report
PSO	Public Service Obligation
PVG	Shanghai Pudong International Airport
R&D	Research & Development
RETACDA	Reduction of Emissions in Terminal Areas (TMA) using Continuous Descent Approaches (CDA)
RLA	Repayable Launch Aid
RPK	Revenue Passenger Kilometre
SAFA	EC Safety Assessment of Foreign Aircraft
SAFUG	Sustainable Aviation Fuel Users Group
SARS	Severe Acute Respiratory Syndrome
SDG	Steer Davies Gleave
SES	Single European Sky
SESAR	Single European Sky ATM Research
SFO	San Francisco International Airport
SIB	Safety Information Bulletin
SIN	Singapore Changi International Airport
SITC	Standard Industry Trade Classification
SJAC	The Society of Japanese Aerospace Companies
SME	Small and Medium-Sized Enterprises

STN	Stansted Airport
SWAFEA	Sustainable Way for Alternative Fuel and Energy in Aviation
SWIM	System Wide Information Management
SYD	Sydney Airport
TAM	TAM Linhas Aéreas (TAM Airlines)
TAWS	Terrain Awareness and Warning System
THB	Thai baht
TJFTZ	Tianjin Free Trade Zone
TLZ	Time-Limited Zone
TMA	Terminal Manoeuvring Area
TRY	Turkish Lira
TSA	Transportation Security Administration
TSU	Total Service Unit
U.S.	United States of America
UAC	United Aircraft Corporation
UAE	United Arab Emirates
UK	The United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change
USAP	Universal Security Audit Programme
USD	U.S. Dollars
USOAP	Universal Safety Oversight Audit Programme
UTC	Coordinated Universal Time
VAAC	Volcanic Ash Advisory Centre
VAT	Value Added Tax
WB	Widebody Aircraft
WTO	World Trade Organization
YoY	Year-on-Year
ZAR	South African Rand