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Aviation safety: Analysing the 2023 IATA Annual Safety Report and 2024 accidents to date

The International Air Transport Association (IATA) recently released its annual safety report and recommendations for air accident prevention by way of the **IATA Annual Safety Report – 2023**, celebrating the 60th anniversary milestone of the report. This described 2023 as "*a significant achievement*" and "*an exceptionally safe year*".

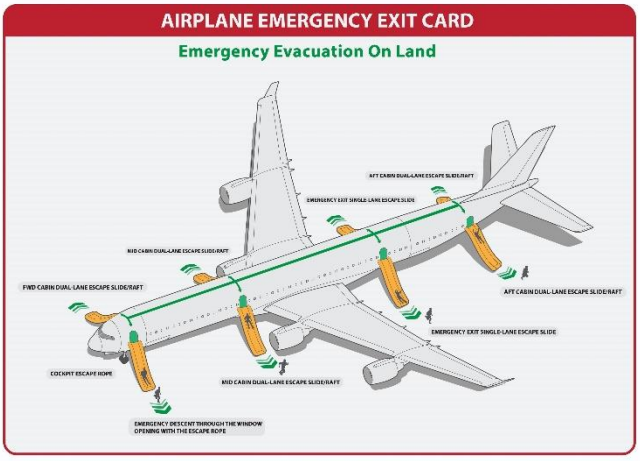
In line with recent years, the annual report noted the continued improvement in safety performance within the aviation industry. In 2023, there were no fatal accidents or hull losses for jet aircraft. This resulted in a record-low fatality risk rate of 0.03 per million sectors, down from 0.11 in 2022 and 0.11 for the five years from 2019-2023. IATA calculated that this high safety level would require a person, on average, to travel by air every day for 103,239 years in order to experience a fatal accident.

There was one single fatal loss involving a turboprop aircraft in 2023 – an ATR-72 operated by Yeti Airlines which crashed on final approach to Pokhara International Airport in Nepal – which resulted in the loss of 72 people. This single fatal accident is down from five fatal accidents in 2022 and a five-year average for 2019-2023, which was also five.

2024 accidents to date

This may not be a trend that is sustained in 2024. Already this year, we have seen two high-profile accidents involving commercial aircraft: the Haneda Airport collision and Alaska Airlines Flight 1282. One of those accidents resulted in fatalities; mercifully, only five lives were lost with the potential for many more had the aircraft evacuation procedures not been so effective.

This accident, on 2 January 2024, involved a runway collision at Haneda Airport, Tokyo between an Airbus A350-900 operated by Japan Airlines and a De Havilland Canada Dash 8-Q300 operated by the Japan Coast Guard. The collision resulted in a fire which quickly engulfed the Japan Airlines aircraft and led to the first hull loss of an A350 aircraft. Despite smoke engulfing the cabin, only three out of eight emergency exits being available and the inflight announcement system failing, all 367 passengers and 12 crew members safely evacuated the aircraft.



While the evacuation was facilitated by passenger cooperation in leaving all hand luggage on board, the evacuation would likely have not been as successful had the A350 not been made of composite carbon fibre materials. The composite carbon fibre panelling meant that the aircraft was able to absorb the initial impact of the collision whilst also slowing the speed at which the fire spread, which granted the passengers the time needed to safely evacuate the aircraft. The last crew member evacuated the aircraft almost 18 minutes after the initial point of impact, making the evacuation considerably slower than the 90 second target time required for aircraft to receive FAA certification. The Japan Transport Safety Board is currently conducting the formal investigation into the accident and is due to publish a report later this year.

The second high-profile accident, which occurred a mere three days later on 5 January 2024, involved a door plug blow-out on an Alaska Airlines operated Boeing 737 MAX 9 shortly after take-off resulting in an uncontrolled decompression of the aircraft at about 16,000 feet. Miraculously, and despite the force of the decompression ripping the headset off the co-pilot and the captain losing part of her headset, the flight crew was able to perform an emergency landing and all 171 passengers and six crew members survived the accident, with three receiving minor injuries. An investigation by the National Transportation Safety Board (NTSB) is ongoing with a preliminary report published in February highlighting that four bolts used to secure the door plug had been missing when the accident occurred. Furthermore, Boeing records showed evidence that the door plug had been reinstalled with no bolts prior to the initial delivery of the aircraft to Alaska Airlines. Earlier this month, it was announced that the US Department of Justice had launched a criminal investigation into the blow-out, a decision that has been criticised by industry leaders including Willie Walsh, Director General of IATA, as one that does not contribute to a just culture in aviation safety.

The accident has had ramifications for the certification and delivery of 737 MAX aircraft and this has resulted in scheduling concerns for airlines. The Irish airline Ryanair is expected to only receive 40 of their 57 ordered Boeing 737 MAX 8-200 aircraft. This will impact their peak summer schedule and the airline has reduced its full year traffic target by five million passengers. Ryanair Group CEO, Micheal O'Leary, has warned an increased fare rise of between 5 to 10% is also anticipated. American carriers United Airlines and Allegiant Air have voiced similar concerns as to delivery times of ordered aircraft. 2024 is proving to be yet another difficult year for Boeing and has led to the general manager of the B737 program, Ed Clark, leaving the company.

Legal analysis: the timely publication of final accident reports

The IATA safety report for 2023 also referenced the ongoing need for continued diligence relating to aviation safety including maintaining a proactive approach to safety, which includes identifying and addressing potential safety issues and emerging trends, whilst also implementing safety measures to reduce the likelihood of an accident. Relevant to this is the objective of an aircraft accident investigation, as set out in Standard 3.1 of the International Civil Aviation Organization's (ICAO) Annex 13 to the Chicago Convention on Aircraft Accident and Incident Investigation, now in its 12th edition. This states that "*The sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability*". The production and timely dissemination of aircraft accident reports, including data and findings of the investigating authority, plays a crucial role in achieving this objective.

Further to this, the IATA safety report for 2023 highlighted a crucial point: an analysis by IATA of accident investigations from 2018 to 2022 showed only 54% of accidents having had an investigation report published. Article 26 of the Convention on International Civil Aviation (the Chicago Convention) imposes an obligation on the State in which the aircraft accident occurs to institute an inquiry in certain circumstances and, as far as its laws permit, to conduct the inquiry in accordance with ICAO procedure. Standard 5.4 of ICAO Annex 13 provides for a final report into the accident to be produced and Standard 6.5 requires this final report to be made publicly available by the investigating authority as soon as possible and, if possible. within twelve months of the accident. Since these are Standards, the uniform application of these is recognised by ICAO as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Chicago Convention (see Article 37, Chicago Convention). As such, it is necessary for States to make a compulsory notification to the ICAO Council in relation to any derogation from a Standard, as set out in Article 38, Chicago Convention.

Regarding the 2023 Annual Safety Report, Willie Walsh of IATA stated:

"Safety enhancements and the prevention of future accidents stem from learning from past incidents. For airlines, this means cultivating a robust safety culture where every employee feels accountable for safety and is motivated and expected to report safety-related information. For states, it involves providing timely, comprehensive, and public accident reports. Out of 226 accidents in the past six years, only 121 final accident reports have been made available. This shortfall is not only a blatant disregard for the Chicago Convention but also undermines the safety of our passengers and crew. Governments and their agencies must step up their efforts."

These points have filtered down at a European Union (EU) and United Kingdom (UK) level – see Articles 16.1 and 16.6 of Regulation (EU) 996/2010 and the Aviation Safety (Amendment etc) (EU Exit) Regulations 2019/645, which put Regulation (EU) 996/2010 into UK law.

However, IATA's analysis of accident investigations has shown there is still considerable work to do to ensure compliance with ICAO Annex 13 and the timely publication of air accident reports to continue the upward trend in aviation safety. According to IATA, key accidents in respect of which no final report has been published includes those involving China Eastern Airlines Flight 5735 (March 2022), Pakistan International Airlines Flight 8303 (May 2020), Pegasus Airlines Flight 2193 (February 2020) and Fly Jamaica Airways Flight OJ256 (November 2018).

The delay over the final report for China Eastern Airlines Flight 5735 – which involved a Boeing 737-89P – appears, at least, to be in part due to the disagreement between the China Aviation Administration of China (CAAC) as the investigating authority (due to the PRC being the State of Occurrence, in addition to the State of Registry and State of the Operator) and the NTSB as a participating authority (due to the United States being the State of Design and State of Manufacturer) over the cause of the accident with the latter considering that the aircraft had been intentionally crashed, based on an analysis of the flight recorders. The CAAC issued a short interim statement on the eve of the first anniversary of the accident in March 2023 stating that the investigation was ongoing due to the "*very complicated and very rare*" nature of the accident.

Standard 6.3 of ICAO Annex 13 provides for a draft of the final report to be circulated to States involved in the accident investigation, which in the case of Flight 5735 would include the NTSB, and to invite their "*significant and substantiated comments on the report*". Such comments relating to technical aspects upon which no agreement could be reached may, at the request of the State providing them, be appended to the final report. Whether the NTSB decides to provide such comments on any draft final report produced by the CAAC pursuant to Standard 6.3 remains to be seen. The NTSB did so in relation to the SilkAir Flight 185 accident in 1997 that involved a Boeing 737-300 – and was considered by some to be an incident caused by deliberate flight-control inputs "*most likely by the captain*" – with such comments of the NTSB on the draft report being included in an appendix to the final report produced by the Indonesian National Transportation Safety Committee (NTSC).

Without final reports that consider the cause of the accident and make any necessary safety recommendations, there is a real risk that the aviation industry's stakeholders cannot access vital information that, in the words of IATA, "*could significantly improve flight safety*". It also does not further ICAO's objectives of aircraft investigation of preventing accidents or incidents or, indeed, not letting history repeat itself.

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