



International Civil Aviation Organization
Asia and Pacific Office

ICAO

**Eighteenth Meeting of the Asia Pacific Regional Aviation
Safety Team (APRAST/18)**

(Bangkok, Thailand, 20-24 June 2022)

Agenda Item 4: Presentations – State / Industry / ICAO

**2021 SAFETY DATA AND EMERGING AND EVOLVING SAFETY RISKS ON THE
COVID-19 RECOVERY**

(Presented by the International Air Transport Association)

SUMMARY

While the COVID-19 pandemic has impacted the airline industry globally, the impact on Asia Pacific airlines has been particularly severe due to a slower recovery compared to other regions.

The passenger recovery rate for the Asia Pacific region has lagged behind other regions and a gap between Asia Pacific and the rest of the world is forecast to persist for some time. However, the recovery within Asia Pacific is forecast to be faster compared with other regions once borders reopen and travel restrictions are lifted.

Although the 2021 IATA safety data indicates that Asia Pacific operators performed better than the industry average, the post-pandemic aviation system is not the same as the one which was operating previously, and any perception of what can safely be achieved should be challenged. The industry must pay attention to emerging and evolving safety risks as a result of the COVID-19 pandemic to collectively maintain the pre-pandemic high safety level throughout the recovery phase and improve safety post-recovery

1. INTRODUCTION

1.1 The IATA Global Aviation Data Management (GADM) Program, aims to provide a comparative overview highlighting areas of flight safety and security concerns, with benchmarking available at a global, regional and airport level. GADM and its contents are not intended to serve as the sole and exclusive basis for assessment and decision making, rather it constitutes one of many means of information gathering at the disposal of the aviation industry.

1.2 The GADM Program has been tracking industry performance over many months looking to ensure that any adverse trends that negatively impact safety go unnoticed. The GADM Program includes two data sharing programs: Flight Data Exchange (FDX) and Incident Data Exchange (IDX). It is pleasing to note that ASPAC operators are major contributors to FDX, with one-third of global flights analyzed by FDX in 2021 sourced from operators in the Asia Pacific Region.

1.3 COVID-19 has impacted air travel. Civil aviation authorities and the industry have had to cope with managing significant disruption arising from the pandemic. The post pandemic recovery presents challenges and risks to aviation safety due to changes to both operating and business environments. It is vital that the aviation sector pays special attention to safety, to ensure a smooth and safe ramp-up of aviation operations in support of air travel recovery, with special attention paid to post-pandemic emerging and evolving safety risks. This paper proposes that the aviation community works together and focuses on strengthening safety fundamentals such as safety oversight and safety management.

2. DISCUSSION

2.1 While the COVID-19 pandemic has impacted the airline industry globally, the impact on Asia Pacific airlines has been particularly severe due to a slower recovery compared to other regions. However, recovery within ASEAN markets has been fast once borders have reopened and travel restrictions have been lifted. There is pent-up demand for travel within ASEAN due to the strong economic and cultural ties between ASEAN countries, as well as a seeming preference for holidaying closer to home.

2.2 Year 2021 continued to be a demanding year for global aviation due to the unrelenting COVID-19 pandemic. However, during these trying times, the trust and collaborative relationships between all aviation stakeholders allowed the aviation industry to be more agile and quick to respond to the almost daily challenges that arose. According to the IATA GADM DATA, the aviation industry responsiveness permitted a resilient safety performance and the industry improved in several key safety metrics:

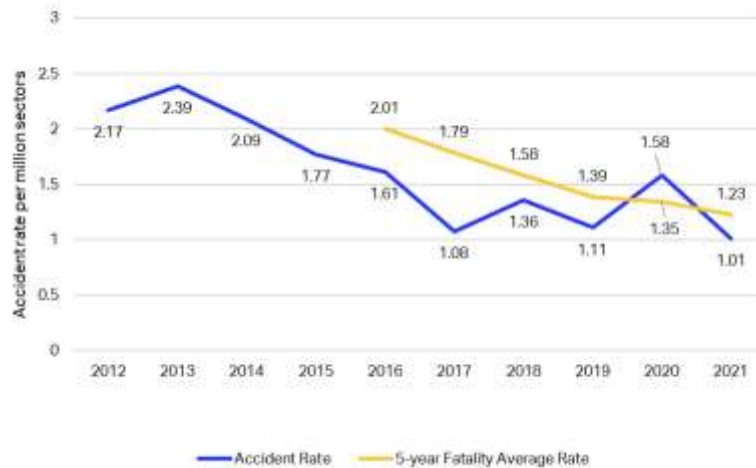
- a) During 2021, there were a total of 26 accidents worldwide in commercial operation, of which 7 caused 121 fatalities.

	2019	2020	2021
Total Accidents	52	38	26
Total Jet Hull Losses	6	3	3
Total Turboprop Hull Losses	5	5	5
Total Fatal Accidents	8	5	7
Total Fatalities on board	240	132	121
Total IATA Member Accidents	22	12	8
Sectors*	46.8	22.2	25.7

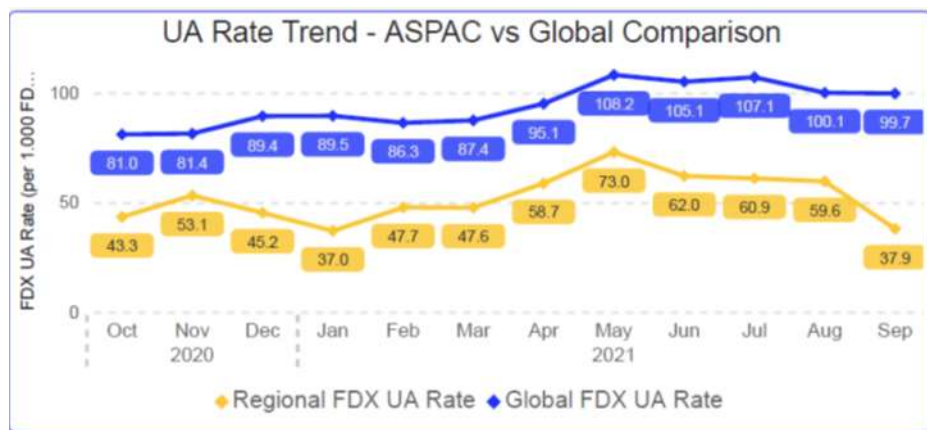
* In Million flights

- b) The industry fatality risk increased over 2020, up from 0.13 to 0.23 in 2021, basically because the severe reduction in flight numbers in 2021 compared to the 5-year average magnified the impact of each accident when calculating the fatality rate.

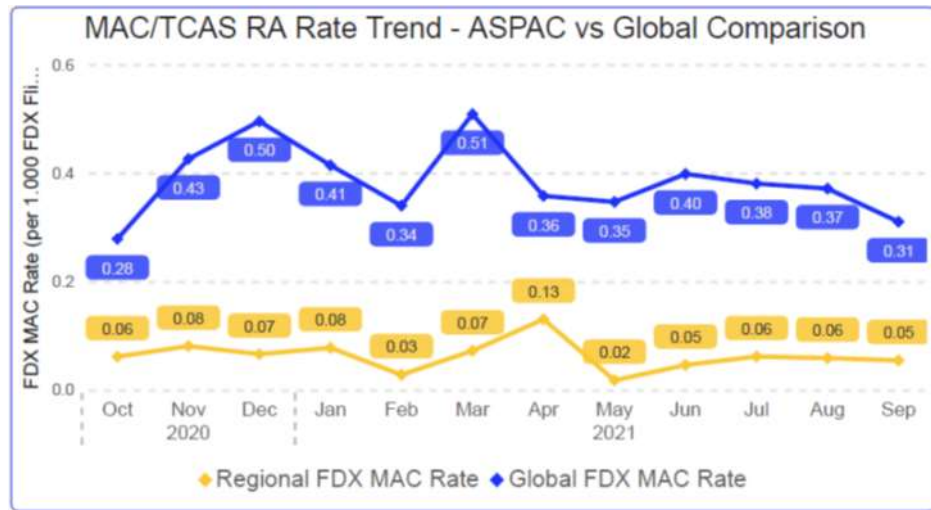
- c) The 2021 industry accident rate of 1.01 per million sectors is below the 5-year accident average of 1.23. Looking at the rolling average, the data shows a continued reduction in accident rates, from 1.35 in the 2016-2020 period, down to 1.23 in the 5 years period 2017-2021



- d) Loss of Control In-Flight (LOC-I) did not maintain the zero of 2020, with three accidents in 2021, resulting in 75 fatalities.
- e) Year 2021 saw zero Runway / Taxiway Excursion accidents for the first time according to IATA’s historical database.
- f) Ground Damage caused zero accidents for the first time in over 15 years.
- g) The analysis of the IATA FDX data in 2021 indicates that ASPAC operators’ rate is better than the industry average in terms of general Safety Performance Indicators (SPI) such as un-stabilized approaches, go-arounds and Traffic Alert and Collision Avoidance System (TCAS) RAs. However, the region must address issues related to Enhanced Ground Proximity Warning System (EGPWS) alerts (IATA is working with other stakeholders in the region to address the problem and reduce the risk, which includes the presentation of a WP to APRAST-18).



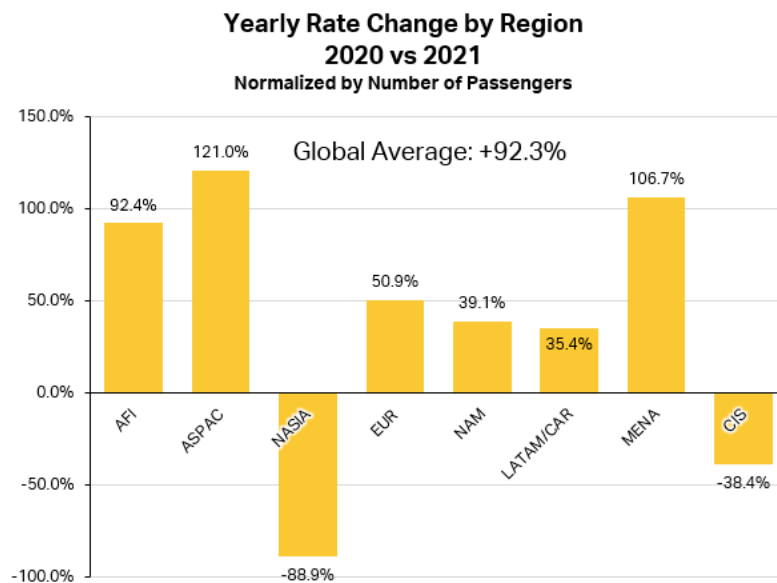
Source: IATA GADM FDX



Source: IATA GADM FDX

2.3 There is a general consensus that the post-pandemic aviation system is not the same as the one which was operating previously, and any perception of what can safely be achieved should be challenged. The COVID-19 restrictions and the resulting low activity levels of airline operators have contributed to new emerging safety risks. The RASG-APAC/10 (Decision 10/6) requested for a survey on the key risks faced by States/Administrations related with the COVID-19 Pandemic According to the survey results, IATA, regulators and other industry stakeholder forecasts, the list of emerging and evolving safety risks during the aviation recovery period might include, but not be limited to:

- a) **Unruly Passengers:** IATA IDX data shows a gradual increase of Unruly Passengers, with December 2020 onwards showing a statistically significant increasing trend. The number of events originating from North Asia showed a significant drop of -88.9%, however, Asia Pacific in contrast had a significant increase of 121.0%,



- b) **Mental wellbeing of operational personnel:** The pandemic has been a significant source of anxiety, stress, and uncertainty.

- c) **Increasing number of basic mistakes by operational personnel:** Lack of practical experience, skills degradation, and availability of skilled human resources are some of the contributing factors.
- d) **Competence of personnel:** Operational staff remain undertrained or not trained, with border closures and long quarantine periods limiting the access of regional operators to simulators and training centres. Following the significant reduction in air traffic, many aviation professionals are not able to perform their normal operational activities on a regular basis.
- e) **Shortage of operational personnel:** Asia Pacific traffic may increase steeply, in an environment with a combination of staff who are no longer accustomed to a busy environment and newly recruited staff.
- f) **Cyber Security:** The global civil aviation ecosystem is accelerating towards more digitalization. This implies that any exchange of information within any digital workflow of the aviation community needs to be resilient to information security threats which have consequences on the safety of flight or the availability of airspace and beyond. The COVID-19 pandemic may have had a negative impact in the vulnerability of many organizations, especially those operating with reduced staff, in terms of reduced capability to detect and react to cyberattacks.
- g) **Reduced available financial resources:** A reduction in available financial resources has affected all industry stakeholders
- h) **Energy storage devices (ESD), portable electronic devices and lithium batteries:** This emerging risk is related to lithium batteries that may be carried on board an aircraft as part of a cargo shipment, checked-in luggage in cargo holds, or in the cabin within personal electronic devices carried by the passengers or crew.
- i) **5G Interference:** In the absence of proper mitigations, there is a major potential risk that 5G telecommunications systems operating in the C-band will cause harmful interference to radar altimeters on all types of civil aircraft and negatively impact safe air transport operations.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information provided in the paper;
- b) encourage States to implement proactive safety mitigation measures to ensure a safe recovery based on data driven decisions;
- c) urge States and industry to implement safety enhancement initiatives to address emerging and evolving safety risks.

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