Safety and Flight Operations Update

Gilberto Lopez Meyer
Senior Vice President
Safety and Flight Operations
2018 All Accidents Overview

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<table>
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<tbody>
<tr>
<td>Total Accidents</td>
<td>32</td>
</tr>
<tr>
<td>Total Jet Hull Losses</td>
<td>2</td>
</tr>
<tr>
<td>Total Turboprop Hull Losses</td>
<td>3</td>
</tr>
<tr>
<td>Total Fatal Accidents</td>
<td>5</td>
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<tr>
<td>Fatalities on board</td>
<td>301</td>
</tr>
<tr>
<td>Total IATA Member Accidents</td>
<td>9</td>
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From July 1st to December 6th: 6 fatal accidents, 216 fatalities

Source: IATA GADM

- These statistics are current as of July 1st, which is the last time the data has been updated by the Accident Classification Technical Group (ACTG).

- ACTG is a group made up of airline, aircraft manufacturer, and other industry experts.

- There were 32 accidents during the first half of 2018; five hull losses, two involving jet aircraft and three turboprops.

- There were five fatal accidents which accounted for 301 fatalities.

- Since last ACTG meeting in June, there have been 216 fatalities.

- Second half of 2018 figures are approximate as they have not been reviewed by the ACTG yet.

- There were six fatal accidents which accounted for 216 fatalities, bringing
the total number of fatalities for this year to 517.

• The accident that occurred in late October in Indonesia accounts for a big number of these fatalities. The preliminary investigation report has been published and the ACTG will be reviewing it in January to capture the lessons learnt so far.
Safety Performance: All Accidents per Million Sectors

Accidents Update: as of 1st July 2018

Source: IATA GADM

• First half of 2018 has worse performance than the previous year, but there has been major improvement compared to ten years ago. More than half by all measures.

• Safety needs to be considered as trends over years, not single view 12-month period.

• IATA members keep performing well, with an accident rate below the overall industry, more than half as this graph indicates.
Breakdown per IATA region of the ‘All Accident’ rate, comparing the performance of the first part of 2018 with previous year.

In four out of eight IATA regions the accident rate increased compared to 2017.

AFI and CIS accident rates remained significantly above the global average.

The accident rate in ASPAC is improving, though the industry in this region is expanding fast, contributing positively to the accident rate in terms of sectors flown.

The five-year trend is showing a reduced accident rate in 7 out of 8 regions, North America being the exception.

Sub-Saharan Africa continued with a strong progress on safety with zero hull losses and zero fatal accidents in the first half of 2018.
All Accident Rate
for IOSA Operators vs Non IOSA

Accidents Update: as of 1st July 2018

2014 – 2018

- Accident rates for IOSA vs. non-IOSA members in the 2014-2018 timeframe, broken down by IATA region.

- IOSA-registered airlines continue to outperform non-IOSA airlines in every region.

Source: IATA GADM
Portable Electronic Devices (PEDs)
STEP 1: Find out where travellers are packing their PEDs

IATA conducted a survey to ask the traveling public across three major markets:

- United Kingdom
- United States
- Hong Kong

IATA conducted a survey to passengers in 3 markets (UK, US and Hong Kong).

Some of the questions included:

- Are you aware of regulations for the safe carriage of portable electronic devices?

- Do you pack any of the following items in checked baggage (power banks, electronic cigarettes, etc)?
PED Awareness Campaign

Key findings:

• Travelers believe they are well-informed but may not actually be
• Spare batteries and power banks are still being carried in checked baggage.
• Business travelers pack more power banks and spare batteries in checked baggage than leisure travelers.

The results showed that:

• 33% of travelers rely on the check-in process for information on restrictions before deciding where to store their PEDs.
• Across all three regions, the majority of travelers felt that they are well-informed about the regulations. However, in all three regions, about one third of travelers were still packing spare batteries and power banks in checked luggage, specially by business travelers.
• The global total for passengers packing power banks in checked baggage is 36% and the average number carried is 2.

IATA launched campaign to help airlines communicate the right and wrong way to pack PEDs before they arrive at the airport check-in by creating an infographic, posted on a new web page in 8 languages and in 3 different formats, a short video.
Key messages of the campaign:

• **It is better to keep all electronic devices with you in carry on bags.**

• Electronic cigarettes, power banks and spare batteries must NOT be carried on checked baggage.

• Items that are allowed in checked baggage must always be switched completely off.

• IATA requests the support of the media to communicate these messages to your readers and viewers.
Global Aviation Data Management (GADM)
Global Aviation Data Management
to support data-driven decisions in aviation safety.

What is GADM?
• World’s most diverse aviation data exchange program.
• Completely voluntary, GADM houses de-identified aggregate aviation safety and security incident reports, global accident statistics and flight data.

What does GADM do?
• Provides benchmarking capabilities
• Gives a global perspective of current and emergent operations risk, driving targeted data-driven risk mitigation to improve aviation safety.

• Data captured in GADM databases comprises accident & incident reports, ground damage occurrences and flight data from over 470 different industry participants.

• GADM is comprised of four main platforms:
  • Accident database
  • Flight Data Analysis (FDX)
  • Analysis Data Exchange System (STEADES) and
  • Ground Damage Data-Base

• Currently over 2 million reports in STEADES/GDDB and 4 million flights in FDX.

• To summarize, here is a very short video to show you some dashboards
Future of GADM

Incident Data Exchange (IDX)

- GADM launched a project to provide its members with enhanced data analytics and benchmarking capabilities with aggregated de-identified Global Safety Data.

IATA Safety Incident Taxonomy (ISIT)

- GADM has been working with more than 100 professionals to develop the most up to date incident taxonomy.
- IATA’s Safety Incident Taxonomy (ISIT) brings together over 100 aviation industry safety professionals from around 40 different airlines, ANSPs and safety agencies, creating a global safety taxonomy development team.
- The new safety taxonomy will allow us to better capture global industry risk at a more granular level. Also included and an industry first, the ISIT includes a Human Trafficking and Wildlife Trafficking
- We are very proud of this further example of how data sharing can positively impact aviation safety.
Aircraft Operational Data (AOD)
Background

- Airline Operational Data is data produced by the aircraft and all its sensors.

- In the past, data generation was a manual process. A pilot or mechanic had to perform certain tasks and report findings on paper.

- Airline Operational Data is all data produced by the aircraft, its systems, components and its sensors.

- This data is generated during flight, when the aircraft are undergoing maintenance, or while on the ground being serviced.

- Data is transmitted during flight continuously or stored and collected on board and later transferred on the ground.

- Data recording was a heavily manual process in the past.
New e-enabled aircrafts have different sensors on board that monitor various parameters.

- A320classic / 400 parameters
- A320neo / 24,000+ parameters
- A330classic / 200 MB per flight
- A330neo / 30+ GB.

New sensors on board monitor thousands of parameters that ensure the safety of flights and assist pilots and mechanics to perform their job better and faster.

Information on the condition of the aircraft is used to avoid delays and cancellations and ensure a smooth travel for the passengers.
Background

• Aviation regulations place primary responsibility for safe operations on airlines; airlines therefore must have the ability to access and use the data at will.

• The vast amount of data generated produces numerous opportunities for innovative data exploitation.

• Collaboration between industry stakeholders is essential to advance efficiency of operations.

• Original Equipment Manufacturers (OEMs) agree that airlines own the raw data produced by their aircraft

• Airlines also believe that direct access to the data sustains and improves operations.

• Aviation regulations actually require that airlines have ready access to operational data

• The thousands of parameters monitored create numerous opportunities that can be exploited by data scientists working together with airline operations experts.

• It is essential that industry stakeholders share data and information to advance aircraft performance and operational efficiency.
Next Steps

• IATA is looking into the various OEM offerings to better understand how these services improve operations.

• IATA wants governance rules for Aircraft Operational Data industry collaboration for:
  • The industry to be competitive
  • The airlines to have choices and
  • Each airline to be in control of its data

• Airlines have asked IATA to look into the various OEMs offerings and better understand how these services improve operations without restricting competition.

• To achieve this, each airline needs to be in control of its own data, data generated by its own aircraft.

• The airline needs to have choices regarding who will be collecting, transmitting, storing, analyzing the data

• This will ensure that data analytics – a new and fast growing industry – is working side by side with the airline business fostering innovation and healthy competition.

• Collaboration in the exchange of data under clear governance rules will keep the industry at the safest level while improving performance and efficiencies.
Turbulence Data Sharing Project

Katya Vashchankova
Head, IATA Meteorological (MET) Program
Thank you.

Gilberto Lopez Meyer
Senior Vice President
Safety and Flight Operations

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