Safety and Flight Operations Update

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2018 All Accidents Overview

Total Accidents	32
Total Jet Hull Losses	2
Total Turboprop Hull Losses	3
Total Fatal Accidents	5
Fatalities on board	301
Total IATA Member Accidents	9

Jan – Jun 2018

Jul 2018 – so far

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
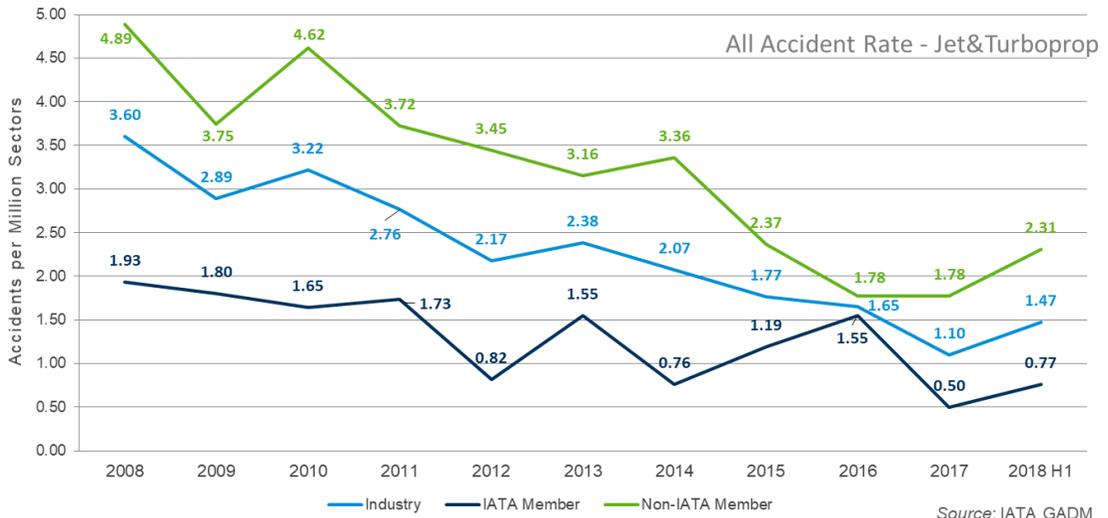
the total number of fatalities for this year to 517.

- 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. All Accident Rate - Jet&Turboprop. 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.

All Accident Rate per Region of Operator

In 4 of 8 IATA Regions the Accident Rate Increased

EUR
1.41 2018
0.67 2017
1.43 2013-2017

CIS
3.65 2018
4.13 2017
4.41 2013-2017

NAM
1.69 2018
0.57 2017
1.07 2013-2017

NASIA
0.00 2018
0.00 2017
0.47 2013-2017

MENA
1.94 2018
0.49 2017
2.85 2013-2017

LATAM/CAR
1.92 2018
1.88 2017
2.12 2013-2017

ASPAC
1.08 2018
1.68 2017
2.52 2013-2017

AFI
4.53 2018
6.87 2017
6.97 2013-2017

2018 vs 2017 accident rate

|	World	IATA Members
2018	1.47	0.77
2017	1.10	0.50
2013-2017	1.77	1.10

Source: IATA GADM

- 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.

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- 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

IOSA vs. Non-IOSA Registered - All Accident Rate - Jet&Turboprop
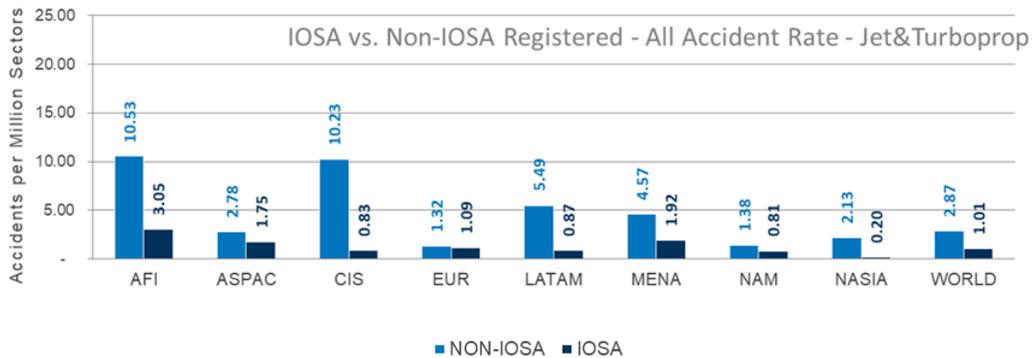
Source: IATA GADM

- 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.

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.

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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.

www.iata.org/ped

Key messages of the campaign:

- <u>It is better to keep all electronic devices with you in carry on bags.</u>
- 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)

IATA Safety Incident Taxonomy (ISIT)

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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.
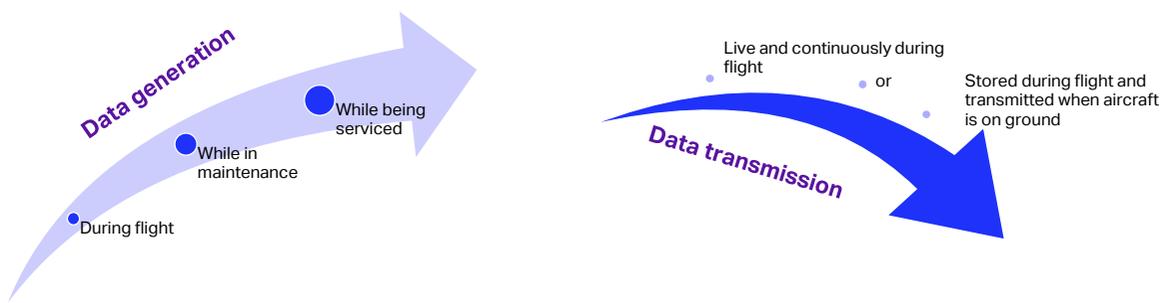
IATA Safety Incident Taxonomy (ISIT)

- 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.

Data generation

- While being serviced
- While in maintenance
- During flight

Data transmission

Live and continuously during flight   or   Stored during flight and transmitted when aircraft is on ground

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

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- 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.

Background

- 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.

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- 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.

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- 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 <u>require</u> 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

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Thank you.

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