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AGENDA ITEM 3:   AVIATION SAFETY

ENHANCING SAFETY DATA EXCHANGE AND ITS SUPPORT TO THE SAFETY MANAGEMENT

(Presented by International Air Transport Association)

INFORMATION PAPER

SUMMARY

This paper briefs the current challenges for the safety data exchange in the ICAO APAC region and introduces the IATA data driven decision making tool, the Global Aviation Data Management/GADM. IATA calls the DGCA to pay attention to the items to be improved in the ICAO APAC region for the safety data exchange and ask for support from States for their major airlines and Ground Handling Service Providers/GHSPs joining GADM.

ENHANCING THE SAFETY DATA EXCHANGE AND ITS SUPPORT TO THE SAFETY MANAGEMENT

1. INTRODUCTION

1.1 The current Safety Data Exchange is to be improved on a global and regional basis. ICAO has been encouraging States to enhance their Safety Data Exchange for the consideration of risk management and safety performance promotion. In the ICAO Global Aviation Safety Plan (GASP) Road Map/2023-2025 there are SEIs (Safety Enhancement Initiatives) such as SEI-16 and SEI-21 with detailed Actions to ask States to encourage and enhance regional and global data sharing, also in the Asia-Pacific Regional Aviation Safety Plan (AP-RASP)/2023-2025 there are many descriptions regarding the value of the data to support safety management and the proposal to enhance Safety Data Exchange;

1.2 Stakeholders including accident investigation entities, aircraft manufacturers, operators, pilots, air navigation service providers (ANSPs) and other stakeholders have struggled to integrate safety information. One reason is that it can be very expensive for regulators to implement data-sharing platforms that to meet the IT technical needs, security needs, hire capable and experienced data scientists, and to implement national regulations to protect this information according to ICAO Annex 19;

1.3 In the aviation industry, there are a number of safety information exchange programs, varying in size and complexity, one of which is IATA Global Aviation Data Management (GADM) . GADM which is one of IATA's key cornerstones supporting airlines and Ground Handling Service Providers (GHSPs) as well as other industry stakeholders such as Civil Aviation authorities, airports etc., has three major safety-related programs namely Accident Data Exchange (ADX), Incident Data Exchange (IDX) and Flight Data Exchange (FDX) which collect, collate and analyze safety data at a global level. This program has the capability to continuously monitor safety trends, benchmark safety performance, identify safety barriers, and promote safety performance.

Accident Data Exchange

1.4 The ADX program provides a unique set of content making it easy to access integrated commercial aviation accident information. The ADX complements the IATA Annual Safety Report by providing easy access to all commercial aviation accidents since 2005 that meet the IATA Accident Inclusion Guidelines. ADX provides rate-based information, which consists of normalizing accident numbers with global sectors to perform analyses that are statistically relevant. In addition, ADX allows to easily extract statistics based on many variables, such as airport, aircraft, date, country, phase of flight, accident category, severity, type of operations, and much more.

1.5 Likewise, the IATA Annual Safety Report provides easy access and visualize commercial aviation accident data, globally and regionally, back to 2005, enabling users to identify trends and patterns and gain insights, as well as monitor and compare between data sets and selections.

Incident Data Exchange

1.6 The IDX program is a worldwide, aggregated, de-identified database of incident reports including flight operations, cabin, ground operations safety and security occurrences. It offers a secure environment providing participants with a seamless experience to view aggregated data against standards and benchmarked with other counterparts.

1.7 Safety and Security information is shown on key performance indicators, helping IDX

participants to benchmark their own performance with regional/global basis and establish safety performance targets in accordance with ICAO requirements for Safety Management Systems (SMS).

Flight Data Exchange

1.8   FDX is an aggregated de-identified database of flight data contributed by airlines which participate in the program.

1.9   FDX provides participating airlines with a comparative overview to highlight areas of flight safety concern, with benchmarking available at a global, regional and airport level. They can benchmark their performance against the aggregate of other operators with similar/same aircraft types and among their own, or other regions.

1.10   The GADM program are all provided free of charge to airlines and GHSPs who enroll to FDX and/or IDX. Participants in the two programs need to actively and continuously provide data to continue to access the programs.

1.11   ADX is also provided free of charge, but the participants do not need to submit any data.

1.12   The Incident Data Exchange (IDX) and Flight Data Exchange (FDX) programs had a total membership of 254 and 200 respectively as at September 2023. During the same period 59 and 49 members are in IDX and FDX respectively from the ICAO APAC region.

1.13   Of the 59 IDX members in the ICAO APAC region, 45 are from the IATA ASPAC region and 14 from the IATA North Asia region (Mongolia, China, Hongkong China, Macao China, Chinese Taipei, DPRK) and of the 49 FDX members from the ICAO APAC region, 39 members are from IATA ASPAC region and 9 from the IATA North Asia region *(Mongolia, China, Hongkong China, Macao China, Chinese Taipei, DPRK)*

1.14   The total number of flights processed in FDX from January 2023 to August 2023 stood at over 4.5 million and with over 367 thousands reports processed in IDX during the same period. IATA projects to process close to 8 million flight in the current calendar year.

1.15   Similar programs have also been developed globally to facilitate the exchange and sharing of safety information. Also, efforts and collaboration, such as Collaborative Safety Teams (CST) have been established between IATA with individual States with the objective of identifying potential safety deficiencies and mitigating their associated risks through the development of SEI. CSTs can be integrated as part of State Safety Information Sharing Networks supporting accident prevention activities at the State level.

1.16   By bringing this safety information, enabled by IATA GADM platform into their safety collaborative groups, industry and government can then join resources to develop and implement safety enhancements, and monitor their effectiveness. Instead of using those resources to develop, implement and run the expensive data sharing platform. The value of safety information exchange concept depends on a coordinated, international effort among industry and government stakeholders.

2.   DISCUSSION

2.1   At this stage, some items are to be improved in the ICAO APAC region for the safety data exchange;

a) Looking into the AP-RASP/2023-2025, regarding the Project risks and challenges associated with AP-RASP implementation, one risk is the lack of timely, consistent, quality data and systems to support monitoring of targets and indicators;

b) Per feedback from some IATA member airlines, that the safety data analysis is critical to their safety management but the current data analysis tool offered by the Civil Aviation Authority can't support enough, core challenges include, the Safety Occurrence/Incident information collection is pending at the text mode but not yet realizing the data mode; the Flight Data/QAR data analysis has challenge such as due the data format reading, can't offer the qualitative analysis;

2.2   As a unique global wide data collection and analysis tool, GADM also requires more data to support its core functions in safety advocacy. By growing the number of airlines and GHSPs providing data to GADM, IATA will be able to provide more insights to airlines/GHSPs on areas of safety concern and also support other industry stakeholders such as CAAs with actionable intelligence on safety performance at a global, regional and state level;

2.3   However, for IATA to bring onboard more airlines and GHSPs the challenges that currently exist need to be overcome. Some of the common challenges include:

a) Lack of support for the GADM program initiative from the Civil Aviation Authority;

b) Lack of clear clarification and guidance from the Civil Aviation Authority regarding the data that could be shared internationally in compliance with the various Data Protection Regulation by the Government;

3.   ACTION BY THE CONFERENCE

3.1   The Conference is invited to note the information contained in this Paper.

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