IATA Global Turbulence Database Development

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Turbulence Impact Mitigation Workshop, 2018
Current problem with turbulence data: **Too little shared**

- All 3 aircraft will hit the same turbulence because the data is too often not shared by ATC, nor between airlines or different solution providers.
- All available data needs to be shared to mitigate turbulence encounters globally.
- Airlines have requested **IATA to be the global turbulence data consolidator**.
Why IATA?

**Experience**
Portfolio of global data sharing programs for the airlines: - DDS, CDD, FRED, ACMG, GADM

**Global**
Global outreach and critical mass

**Neutrality**
Neutral third party to protect airlines interests – governed by the airlines

**Technology**
Vendor agnostic solution
IATA’s role is to receive existing airline data from ground servers, consolidate data into one database (managed by a specialized, IATA contracted database vendor), and upon request provide the data back to airlines via ground-to-ground transfer.

***Airlines are free to decide how to use the data operationally with their existing dispatch or airborne alerting tools***
Progress to date

- Global Turbulence Study created to validate the need
- Regional workshops held in DOH, BJS, SIN, MIA, LON to validated the concept and create a base set of requirements
- Buy-in from multiple airlines globally to start build phase
- Request for Proposal released to industry in Jan 2018 to build the IATA Turbulence Data Exchange Platform
- Snowflake Software selected as partner to build platform
- IATA Turbulence Advisory Group established
Highly Collaborative Development

IATA Turbulence Advisory Group:
Platform Implementation Timeframe

- Development kick off workshop held in June 2018 in London with 12 major Airlines represented

- Jul – Dec 2018: Minimum Viable Product (MVP) operational platform delivered

- Jan 2019: Show and tell workshop & soft launch
- Feb 2019: Integration & Operational trials with 24/7 support
- Feb – Sept 2019: Minor releases based on Operational Trials
- Q3 2019: Final show and tell workshop prior to Full launch
- Dec 2019: Full launch
Platform Architecture and Functionalities Developed to Date

- 99.9% Availability
- Highly Scalable
- 24/7 Monitoring
- Highly Secure
- Anonymized Data
- Full logging & audit
- 30 seconds for data throughput
Platform Functionalities Developed to Date

- Basic turbulence viewer
Platform Functionalities Developed to Date

- Color coded EDR reports
Platform Functionalities Developed to Date

Turbulence intensity slider
Platform Functionalities Developed to Date

Detailed report

IATA Turbulence Aware

Observation Time
2018-09-13T20:48:00Z

Altitude
11120

Latitude
39.64377

Longitude
-86.76933

Eddy Dissipation Rate
(Peak)
0.38

Eddy Dissipation Rate
(Mean)
0.16
AREAS OF FOCUS in 2018

- Turbulence Data Sharing Platform Development

- Outreach to the airline community to encourage the adoption of reporting technology globally (i.e. critical mass):
  - Implementation guidelines on how to implement turbulence reporting capability on the aircraft

- Outreach to technology solution providers to encourage the development of cost-effective turbulence reporting solutions while respecting airlines’ data ownership rights
Thank you. Questions?