

## Key Takeaways from First Edition of SAFE 360°

Safety in Aviation Forum for Europe

13 – 15 May 2019

Brussels, Belgium

“Such information is not necessarily definitive, the Agency cannot be held responsible for any damage resulting from unauthorised use of this information. If you rely on this information for purposes other than its intended use, you assume all risk associated with such use.”



## 1 Objectives of SAFE 360°

**Safety in Aviation Forum for Europe (SAFE) 360°** is an innovative conference which strives to break down silos by examining issues using a cross-domain perspective. The aim of SAFE 360° was to provide the European aviation community with a forum that would:

- I. Facilitate an open and transparent sharing of safety information; and
- II. Address the safety issues in a holistic manner by reviewing them from the perspectives of the different domains.

Beyond the growing need to examine issues using a systemic approach, SAFE 360° also plays a key role in complementing the Data4Safety initiative which will provide a long term framework for collaboration in the European aviation community.

## 2 Overview of First Edition of SAFE 360°

The inaugural SAFE 360° event was held in Crowne Plaza – Le Palace in Brussels from 13 to 15 May 2019.

About 250 people from across the European aviation community came together to share their experiences and to discuss the broader perception of the combined safety risk picture and a multi-domain perspective that considered an array of solutions.

The first day covered the different strategic views, discussed the top-safety risks and balanced those views with possible collaborative mitigations. The second and third days, while thematically different, followed a similar rhythm with 360° discussions on runway incursion, lithium batteries and ground safety followed by breakout sessions on occurrence reporting and flight data monitoring.

## 3 Quick Overview of the Panels and Breakout Sessions

Panel / Breakout Session	Key Takeaways
<p><b>Top Safety Issues</b></p> <p>The main objective of this panel was to share the perspectives of the different aviation domains on the Top 5 safety issues</p> <p>This panel was supported by representatives of Airbus, Paris Charles De Gaulle Airport, British Airways, the Irish Aviation Authority and EASA.</p>	<ul style="list-style-type: none"> <li>• Despite the different domains and operational environments, the top safety risks perceived by the different stakeholders were mainly convergent and no major divergences were observed.</li> <li>• However, discussions showed some organisations are more concerned by immediate operational issues while others were more interested in systemic and emerging issues. Sense of priorities differ according to the domains.</li> </ul>
<p><b>Collaborative Mitigations</b></p> <p>The main objective of this panel was to share information and exchange best practices on the collaborative mitigations put in place by the different stakeholders.</p>	<ul style="list-style-type: none"> <li>• With the growing complexity of flight operations and interconnectedness between previously distinct domains, the need to adopt a holistic approach to identify emerging risks and develop collaborative mitigations is becoming more pertinent than ever. The panel presented successful examples where collaborative mitigations played an instrumental role in improving safety of the system as a whole and reducing the system's exposure to risks.</li> </ul>

Panel / Breakout Session	Key Takeaways
<p>This panel was supported by representatives of Ryanair, ATR, Luton Airport, the European Cockpit Association, NAV Portugal, Deutsche Lufthansa, the NLR – Netherlands Research Center and EASA.</p>	<ul style="list-style-type: none"> <li>While EASA’s collaborative platforms already provide a framework for developing mitigations at a systemic level, the panel underscored the need for further collaboration at an operational level. Data4Safety, now in a proof of concept phase, is expected to help to foster such a collaborative approach in the long term.</li> </ul>
<p><b>360° on Runway Incursion</b></p> <p>The main objective of this panel was to build a 360° review of this safety issue, what the stakeholders are doing to tackle it, if the actions put in place are coherent and whether these actions may result in the transfer of risk.</p> <p>This panel was supported by representatives from Ryanair, Deutsche Lufthansa, Eurocontrol, IFATCA, Brussels Airport, Airbus and EASA.</p>	<ul style="list-style-type: none"> <li>The panel shared some examples of Runway Incursion and highlighted a spectrum of different approaches to mitigate the risks – from operational perspectives (e.g. from the pilot to the air traffic controller) to more technical solutions to be installed on-board, and collaborative approaches to develop a coherent action plan of mitigations. Solutions targeted at the drivers of ground handling vehicles at the airport were discussed as well.</li> <li>It was emphasised during the panel that all actors involved in the aircraft operation around the airport (e.g. pilots, controllers, vehicle drivers, regulators and manufacturers) have a part to play in implementing measures to mitigate this risk. A solution implemented in isolation would have limited impact in improving the levels of safety. Thus, collaborative working groups focused on addressing Runway Safety (i.e. Local Runway Safety teams) are essential. Data-driven approaches should be adopted to accurately diagnose the safety issues, support the development of mitigation actions and thereafter, monitor the effectiveness of measures.</li> </ul>
<p><b>360° on Lithium Batteries</b></p> <p>The main objective of this panel was to build a 360° review of this safety issue, what the stakeholders are doing to tackle it, if the actions put in place are coherent and whether these actions result in the transfer of risk.</p> <p>This panel was supported by representatives from Samsung Electronics, Kühne and Nagel, CargoLux, Airbus, IATA, CAA Belgium and EASA.</p>	<ul style="list-style-type: none"> <li>Given the increased propensity of risk transfer along the supply chain, it is important for all the actors across the chain to implement mitigation actions to reduce the risk of lithium batteries on the aviation system. This starts with battery manufacturers increasing the inherent safety of batteries, cargo forwarders conducting thorough risk assessments before accepting the shipment of lithium batteries and aircraft manufacturers and operators developing procedures that can mitigate the impact of lithium battery fire.</li> <li>While the existing processes addressing lithium batteries as dangerous goods are considered to be working well, the biggest threat is seen to be coming from undeclared shipments of lithium batteries. Future work should therefore focus on increasing the battery manufacturing standards, enhancing the detection capabilities and containment capabilities of packaging used to ship lithium batteries. All stakeholders need to work together, including those outside the aviation industry, especially with regard to the battery manufacturers.</li> </ul>

Panel / Breakout Session	Key Takeaways
	<ul style="list-style-type: none"> <li>In addition to the issues specific to the transport of lithium batteries, the increased use of lithium batteries by crews on board and in aircraft design require further action from the different stakeholders to address threats associated with increased presence of lithium batteries in the aircraft cockpits and cabins.</li> </ul>
<p><b>360° on Ground Safety</b></p> <p>The main objective of this panel was to build a 360° review of this safety issue, what the stakeholders are doing to tackle it, if the actions put in place are coherent and whether these actions result in the transfer of risk.</p> <p>This panel was supported by representatives from EasyJet, WizzAir, Gothenburg and Copenhagen Airports, Airbus, ACI/Airsight, DGAC France and EASA.</p>	<ul style="list-style-type: none"> <li>Coordinating ground safety at an airport with hundreds of stakeholders needs to be done in a collaborative manner. This includes fostering a strong reporting culture. This is achieved by involving all types of stakeholders from the start in the development of a common safety approach.</li> <li>The panel highlighted the huge challenge to cultivate a good safety culture with ground operations staff who are working in a low-wage environment with a high staff turnover and limited knowledge of English – the lingua franca in aviation. Many limiting factors originate from non-aviation domains and belong to broader issues of economic incentive and availability of labour. Thus, it is more important for champions of this safety issue to delve further with a 360° perspective to address this issue at a systemic level with non-aviation stakeholders, such as the ground handling companies, unions and local government.</li> </ul>
<p><b>Breakout Session on Occurrence Reporting</b></p> <p>The main objective of this breakout session was to exchange ideas about the role of occurrence reporting, best practices, the importance of data quality and share updates on future developments.</p> <p>The session was supported by representatives from Dassault Aviation, TrafiCom – Finland, Turkish Technic, Luxair, DG MOVE and EASA.</p>	<ul style="list-style-type: none"> <li>This session replaced the formerly standalone Internal Occurrence Reporting System (IORS) Workshop and was the first occasion for EASA to exchange specifically on Occurrence Reporting with a number of stakeholders including the National Aviation Authorities (NAAs) of EU Member States, organisations reporting to EASA and organisations reporting to the NAAs of EU Member States.</li> <li>The importance of occurrence reporting in preventing accidents and incidents was further validated by the audience via a live poll conducted during the panel.</li> <li>Some of the questions raised by the audience show a wide range in the reporting culture and practices, especially between the manner in which EASA has engaged, exchanged and set up practices with the organisations for which EASA acts as competent authority and the EU organisations not reporting to EASA.</li> </ul>
<p><b>Breakout Sessions on Flight Data Monitoring (FDM)</b></p> <p>This topic was tackled over 3 different sessions with the following</p>	<ul style="list-style-type: none"> <li>This session replaced the formerly standalone European Operators Flight Data Monitoring (EOFDM) Forum. The integration of the EOFDM forum into SAFE 360° was appreciated by the FDM specialists from the industry as it lends the operational perspective to the FDM discussions.</li> </ul>

Panel / Breakout Session	Key Takeaways
<p>sub-topics. These sessions were aimed at providing a detailed technical insight and update on several themes as a matter of legacy with the FDM conferences held in the past.</p> <ul style="list-style-type: none"> <li> <b>Data Science in FDM</b>            Supported by representatives from Cranfield University, Universidad Politécnica de Madrid, Airbus Defence and Space, NLR – Netherlands Aerospace Center and EASA.         </li> <li> <b>Breaking the Silos</b>            Supported by representatives from TUM - Technische Universität München, TAP Portugal, Corendon Airlines, Ryanair, ECA, Italian Flight Safety Committee and EASA.         </li> <li> <b>Best Practices in FDM</b>            Supported by representatives from Eurocontrol, Qantas Link, Air Canada, British Airways, TUM - Technische Universität München and EASA.         </li> </ul>	<ul style="list-style-type: none"> <li>The discussions at the breakout sessions confirmed that many research entities are very active in the domain of aviation safety and in particular, FDM. However, the industry may sometimes perceive research entities to be too academic as research entities may not always be connected to industry needs or constraints. In addition, they may sometimes lack aviation expertise to steer the analysis and interpret results accurately. Through EOFDM, EASA is in a good position to bridge these two communities.</li> <li>Research activities are based on data sets provided by air operators but they are usually of limited size and does not cover the complete scope of normal operations. The limited data set may potentially skew the results of the analysis. The D4S sandbox may provide the solution to this problem.</li> <li>There is a growing interest to exchange data between entities which the aviation industry traditionally does not exchange data with. For example, weather forecasting organisations are interested in flight data as it can be used to feed into their weather models. Such exchange of data is always beneficial as it provides new opportunities for analysis.</li> <li>More work needs to be done by air operators to reap benefits from FDM analysis, e.g presenting the FDM outputs in a clear and actionable manner to their management and flight crews. It is also important to consider how such safety intelligence can be presented to the aviation communities and whether such results can be reported in a manner which is consistent existing formats such as the EASA Annual Safety Review.</li> </ul>

#### 4 Next Edition of SAFE 360°

We thank the participants who took the time to provide your feedback on the first edition of SAFE 360° which validated the importance of this conference. Given the success of the first edition of SAFE 360°, EASA will be holding a second edition of SAFE 360° in Spring 2020.

The next edition will focus on drawing more links with existing work at the European level, such as the European Plan for Aviation Safety (EPAS) and Annual Safety Review (ASR), and support actionable outcomes or recommendations to influence actions committed at the European level.

We welcome feedback on topics and issues to be explored at the next edition of SAFE 360°. More details on the exact date and venue will be released in Autumn 2019.

