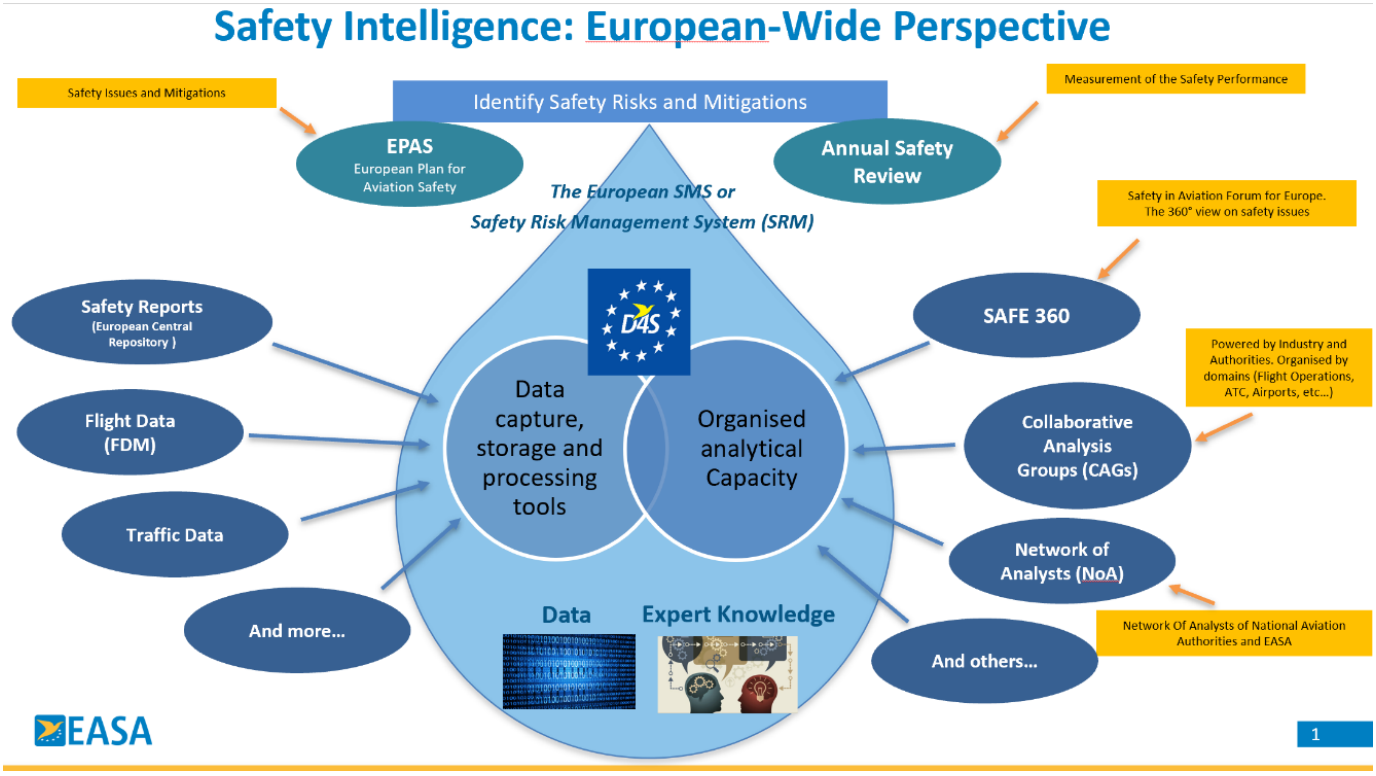
SAFE360° Conference Summary

DAY 1- 8 JUNE 2021

INTRODUCTION AND KEYNOTE

Erick Ferrandez, Head of Safety Intelligence and Performance opened SAFE360° by outlining the safety intelligence vision for Europe. He talked about the symbolic importance of the name SAFE360° – the Safety in Aviation Forum for Europe (SAFE) is a forum for discussion on important safety issues by taking a 360 degree view. It is important to complement the domain-based approach to safety. When we work together we solve our safety challenges more effectively and ensure that we cover the interdependencies in a coordinated way. Erick also talked about the European Safety Risk Management process, the Data4Safety project and their role in supporting safety improvement and where relevant, feeding into the European Plan for Aviation Safety.



Keynotes from Patrick Ky, Executive Director and Luc Tytgat, Director of Strategy and Safety Management.

EASA's Executive Director formally opened the conference by talking about the challenges the industry has faced during the COVID-19 pandemic. He highlighted also the importance of wellbeing of aviation personnel as well the focus on the changing safety environment. Luc Tytgat also talked about the key strategic challenges faced by aviation, not just in terms of safety but also with regards to health protection, security and cyber as well.

HIGH-LEVEL PANEL - NEW SAFETY LANDSCAPE

Erick Ferrandez, Luc Tytgat, Giancarlo Buono (IATA), Yannick Malinge (Airbus), Marc Houalla (CDG Airport), Tanja Harter (European Cockpit Association), Iacopo Prissinotti (EUROCONTROL)

- Is there a new safety landscape? What are the new risks following the pandemic? How do we identify our key risks when we don't have as much data as we are use to? Right now, are we ready for the Ramp-up?

- The panelists talked about the systemic challenges that have been caused by the pandemic and how it has been vital for all actors to work closely together in such an interconnected system like aviation.

- There were also very practical challenges and the panelists talked about key solutions such as safety leadership and the importance of positive culture, safety risk management and a collaborative, connected community. It is vital to talk with all stakeholders, whether on the airport, supporting the operation etc – it is all about the planning and conversation. The Ramp-up campaign was highlighted as a key way to help focus on personal responsibility, individual actions, organizational support and our collective responsibility as an industry.

- Erick highlighted the survey that was carried out with the conference attendees just before the event (the survey was closed only yesterday – Monday 7th June). 57% of respondents viewed that the safety landscape has permanently changed and the panelists discussed what this means for the industry. They especially talked about the integration of the health aspects of air travel and how this had influenced the industry. The panelists also highlighted the importance of the resilience of the system over the coming few months as the Ramp-up really gathers speed.

Recommendations from the panelists:

- Be aware, anticipate and adjust as things go on.
- Make your SMS activate/ effective and cooperate with all stakeholders.
- Wellbeing, training and supervision.
- Back to basics, take time to do things in the right order.
- Compliance with procedures is vital now more than ever.
- Know your risks and manage them effectively.
- Set a culture of trust to encourage reporting and open conversations.

HIGH-LEVEL PANEL - DATA4SAFETY GOING OPERATIONAL

Erick Ferrandez, Leopold Viroles and Luc Tytgat (EASA), Bert Bonke (European Cockpit Association), Jim Pegram (EasyJet), Patrick Cipriani (DGAC France), Joachim Lücking (Head of Unit Aviation Safety, European Commission), Aidan Murray, (Ryanair).

- Erick outlined the D4S project where we are currently in the proof of concept phase and the evolution to the operational phase in 2022. Leopold talked about some the key features of D4S and the project development.

- Luc talked about the Agency's goal some years ago to leverage big data technologies to help us to provide Europe with the best possible intelligence capabilities for use not just by EASA and other regulatory authorities but also by the wider industries. We really sought to bring together segmented data sources to help us predict future risks.

- From an operator's perspective, there is a great deal of value in being part of an industry-wide programme to share data and better understand risks and solutions together.

- A great deal has already been achieved with D4S – starting with the initial goals and objectives that envisioned at the start. The panel highlighted that a huge amount has already been achieved that has seen the main data sources brought together with flight data from the airlines involved covering 1.6 Million, 2.2 Million occurrence reports as well as weather and other data supporting over 130 Million flights.

- By way of examples, the analysis of ACAS RA was carried out using FDM and other supporting data. Leopold also introduced an example based more on occurrence data from the European Central Repository of the Mandatory Occurrence Reports submitted by organisations. At a simple level, it has highlighted the increase in reporting and the seasonality of the aviation system in Europe. Through the data fusion with other sources, this provided the ability to normalize the reporting with support from Eurocontrol's data. The next version of the EASA Annual Safety Review will also include analysis of data from D4S. All information presented was based on de-identified and aggregated data.

- Stakeholders involved have highlighted the spirit of trust that has been established within D4S with strong, collaborative data governance.

HIGH-LEVEL PANEL - DATA4SAFETY GOING OPERATIONAL

- Other airlines involved in D4S have highlighted the benefits of FDM at an airline level and how this contributes to safety risk management.

- From an authority perspective, D4S is a huge step forward in helping authorities with monitoring and safety management role at national level.

- Joachim from the European Commission outlined the Commision's commitment to the D4S project to continually enhance aviation safety in Europe as part of the smart and sustainable EU transport system, while becoming more resilient for the future.

- Erick then talked about the expansion of the D4S project that will done in waves to include other types of organisations as well as expanding the number of airlines and other organisations. The governance will also need to evolve. More information will be communicated in Q3/4 this year.

- Leopold challenged the panelists to define their success criteria.
  - Trust and transparency.
  - Must be a key part of the wider aviation system.
  - Being able to dissect key decision making moments to arm pilots and other operational staff with the tools to make better decisions.
  - Deliver results to improve safety.

Questions

- Access to data and information: No public/ third party access to the data but the results/ information will be for the greater community and will be made available.

- How can organisations get involved? No one will have an obligation to join but EASA wants this to be a very collaborative and inclusive programme. There will be a clear roadmap for the organisations willing to join.

- How can D4S account for the qualitative aspects, that exists outside the data: D4S is not just about the data element, the analysis platform involves also the key experts to help discuss and assess the problem to validate the problem with expert knowledge.

HIGH-LEVEL PANEL - INTEGRATED RISK MANAGEMENT

Rowan Powel and Adam Borkowski (EASA), John Monks (British Airways), Francesco Di Maio (ENAV), Piotr Samson, (DG CAA Poland), Tarald Johansen (Avinor). Video contribution of Stephen Creamer (Director Air Navigation Bureau, ICAO) and Christophe Ramu (iter).

Main question - Is it possible to have a common approach to both safety and security?

- Collaboration between domains is vital at Global, European and National level to look for synergies and maximise the use of resources. Operators also see the value in a single risk management system that views all risks together within in a way that can present the result holistically and deploy the resources needed to mitigate risks effectively. For ANSPs this is perhaps a less provocative question perhaps because it is something that has been more commonplace in ATM. At the airport perspective, security has long been a key activity and strengthening alignment has worked for Avinor but this might not necessarily be appropriate for everyone.

Follow-up question – Why is it difficult and what are the challenges?

- There are examples of implementation challenges for an integrated system because there is a lack of good practice to refer. There are many benefits from the integration but this was a challenge that really required strategic buy-in. From the EASA Management Board, the fact that this was a topic for discussion at SAFE was a positive step – but there is still the need to really bring the integration topic to the consciousness of the senior decision makers. A single position at Global, European, National and even organizational level is a considerable challenge and it has highlighted the importance of both leadership and agreement on basic principles.

Key Takeaways:

- We need a holistic approach, based on data and facts. Leadership, focus and clear objectives – why an integrated approach is needed.

Questions:

- Why lots of tools for security but not dangerous goods? Technologies may help solve this challenge but there is role for the regulators to support implementation.
- Does there need to be a common terminology? There is for sure a need for mutual understanding and knowledge but for this we need common objectives and as far as possible a common language as well.

DAY 2- 9 JUNE 2021

TRAINING EFFECTIVENESS AND COMPETENCE

Rowan Powel (EASA), Svetlana Bunjevac (EUROCONTROL), Kathy Abbott (FAA), Gunnar Steinhardt (Cargolux), Thomas Leoff (Int'l Association of Aviation Personnel Schools), Nicklas Dahlstrom (Emirates Airline), Dirch Hansen (EASA).

Competence, learning, training, teaching and practical reality.

- The panel started with presentations from the panel members outlining some of the challenges we face in the aviation industry and how different solutions have evolved. It is important to understand the barriers that prevent people "doing" things effectively.

The impact of the pandemic.

- Competence and also confidence has been significantly impacted for huge numbers of staff as they return to work. Digitalization of training – distance learning, online replacing classroom, also in the admin processes of ATOs, operators and NAAs is a huge challenge at the moment. As people return to work in bigger numbers and the volume of work/ traffic increases, we need to monitor and adapt to a changing situation.
- What will be the impact of the pandemic and the reduction in face-to-face training on aviation staff during the ramp-up and for the long term. A resilient safety management system is very important – we need to understand and manage our risks more now than ever. At a personal level. We also need to keep a close eye on our instructors, examiners and trainees to look after their performance, abilities and wellbeing as well.

Key Takeaways.

- We should not lower our standards and maintain safety – train to the right levels.
- We need to support and look after our people as they come back to work.
- Involve training professionals in the process of redesigning training.
- Looking out for each other and creating the environment that enables people to identify their own needs.

Questions.

- Are there any practical examples at the moment? Unstablised Approaches and situations where mental resources shifted from workload management and planning as people focus on more direct flying activities.
- What about continuing airworthiness training? This applies to all domains – we will be specifically covering the situation for CAMOs in the Safety Week on Thu 24 June,.
- Should we be using simulators more effectively – yes.

APPROACH PATH MANAGEMENT

Florent Morel (EASA), Alexander Schwaßmann (DFS), André Vernay (DGAC - DSAC France), Gabriel Jarry, Data Scientist (DGAC - DSNA France / ENAC School), Gunter Ertel (Boeing), Laszlo Ekes (WizzAir), Bert Bonke (European Cockpit Association)

Outcomes we are trying to prevent.

- An effective approach path management is vital in preventing Runway Excursions, which is the most common hull loss accident in commercial air transport operations. The primary overrun factors are the touchdown point, speed at touchdown and the deceleration after the commitment to land. A stable approach is vital.

How to get to the stable situation at the right place and time?

- The key factor is time and this is why compliant approaches are so important – they are a contract between pilot and controller. Being compliant helps to reach the stable approach point effectively. It is difficult to slow down and descend at the same time. It is important to say “no” when the pilot or controller has any concerns with the approach.

Using data.

- Data driven models could help enhance approach path management to help identify the key actions we can take.

An airlines' perspective.

- Airlines should encourage reporting and the use of FDM/ other data sources so that the SMS can monitor the problem, collect the threats and support risk mitigations.

The role of ATC.

- ATC have a key role to play, in terms of compliant approaches and approach profiles. Particularly relevant in the discussion is the interception from below and what is the most effective approach profile. Controllers learn about energy management in training but they might not be exposed to the situation for all aircraft types depending on the traffic in each ATS unit. Pilots should let ATC know if they require specific profiles.

Using Data4Safety to support Approach Path Management improvements.

- Application of Data4Safety to Approach Path Management: The preliminary work of the Data4Safety project has shown that it is possible to effectively analyse various data sources.

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Polls.

- Have you experienced a trend in your airline – was 50/ 50.

- How often do you exchange views with others? Mostly ad-hoc but 25% said there was systemic coordination.

Key Takeaways.

- Runway excursions at landing one of the most frequent accident – effective approach path management is key to reduce this risk.

- Enhancing approach path management can only be done collaboratively, starting at FL100 right through to landing.

- Energy management, open and early communication between flight crew and ATC is key and analytics will be key to understanding and solving the problem.

- Promotion of the subject and discussion between stakeholders is important and also to promote the key actions.

TURNAROUND SAFETY

Martin Bernandersson (EASA), Katerina Karakatsani (Fraport Greece), Burkhardt Höfer (Hamburg Ground Handling GmbH), Jeroen Jaartsveld (KLM), Jasper Daams (Schiphol Group)

Top issues.

- Martin introduced the topic and the top safety issues involved. There was also information on the most important safety issues. One key issue that was discussed is a collision while servicing the aircraft, which is mostly associated with human factors. This was followed with loading Errors where the load was not loaded/ lashed according to the standard, loads were not documented correctly or a lack of supervision. Also, moving aircraft was also discussed.

Actions and lessons learned:

- There are already a number of key lessons learned. These include, further standardization of procedures on a mandatory basis, guidelines for HF training, implementation of guidelines for CRM, ways to build a collaborative approach. What about dealing with the organizational factors associated with this problem was a comment in quite a few questions and this needs to be tackled.

Example of good collaboration.

- An airport example of a colalborative approach was shown on how to collaborate with multiple stakeholders on this safety issue. Through an integrated approach there is good collaboration with all airlines, service providers and other stakeholders to address both operational ans systemic problems. There were some key measures provided to help reduce the pushback risk as an example for the audience – both procedural and related to infrastructure.

Key Takeaway:

- Safety of staff on the ground is of primary importance and the safety of operations – it is important that we work together on collaborative solutions.

Questions.

- Standardisation of Procedures - Why is there not an overall harmonised procedure in place? Why is it acceptable for a handling agent to require different procedures to handle the same aircraft type operated by different operators? This is huge challenge given the diversity of the industry and truly requires a collaborative solution. There are some examples of local success on this topic and at a wider level, EASA is working to provide new regulation for the ground handling domain.

- Concerning the root cause for collision while servicing aircraft: is the limited time frame of the turnaround cycle neither a topic? There were many other questions related to such wider systemic factors. The more collaborative the approach to this topic, the better we can discuss and solve the systemic factors – it is important to choose the right ones and solve them in the right way and in the right order – tackling the top risks first.

- Is SMS mandatory for all ground handling companies? If not, is there any work around for it to be like this? It is a requirement from Airports mostly that ground handling companies have SMS.

DAY 3- 10 JUNE 2021

ENTRY OF AIRCRAFT PERFORMANCE DATA

Christopher Misiak (EASA), Florent Duru (BEA France), Ian Goodwin (AIRBUS), Jonas Lejeune (AvioBook/Thales), Lauris Mikelsons (airBaltic Corporation), Martin Nijhof (KLM Royal Dutch Airlines), and Aigars Krastins (EASA).

Introduction to the topic.

- The moderator Christopher from EASA highlighted the analysis results of the topic and the EASA goal to facilitate new safety nets.

An investigation authority perspective.

- There are the primary sources of information on the topic of aircraft performance data entry. These include 3 international studies and 62 accidents and serious incidents since 1998. Several investigations identified that independent computations had not been an effective barriers in some of the occurrences. Studies and investigations have also highlighted that when pilots focus on the task the numbers they are calculating can sometimes lose meaning. To strengthen these barriers improve procedures with global consistency checking and reinforcement of gross error checking at the aircraft systems level can greatly strengthen the barriers.

An airline view.

- There was then an airline view to highlight their analysis of FDM events related to entry of performance data and how these transformed into the performance monitoring of safety events within their hazard log so that they are able to manage the safety barriers. As an airline they have a number of procedural barriers that combine the human parts of the process with system-based checks at the flight preparation phase, taxi out and throughout the take-off.

An airline investigator's view.

- An airline investigator followed on by talking about reducing risk through system design. This begins by customizing the manufacturers procedures to better fit the way an airline operates, In terms of loadsheet design, there were example where incorrect figures were used and entered into the aircraft – consider using space or highlighting on the form to help pilot's find the right figures. It is also useful for airlines to work with their manufacturer to customize FMS screens to reduce the risk of errors.

A manufacturer's view.

- Airbus reinforced the points made by the operators that the point of data entry is potentially the most stressful moment on the flight deck. Small changes can cause a lot of sudden pressure and errors can and do happen. Ian highlighted some of the checks that have been built into the aircraft systems to help the pilots to identify potential errors.

Best practices in EFB Software.

- EFB best practices can help to reduce the risk of erroneous data entry. By using integrated apps and tools the number of actions can be reduced to a minimum and reduce the risk of mistakes occurring. Modern, interconnected systems through the EFB can offer accurate and real-time data if there is a mis-match. It is also important to integrate the use of the EFB into the workflow of the pilots so that it is a tool that supports the needs of the flight crew at any stage in the flight. Rethink your process around the EFB and don't just use the EFB as a replacement for your old paper processes. Finally, he highlighted the importance of testing any EFB solution within your operation, especially in terms of the additional functionality that is not part of a specific process.

Slido Poll 1 – Additional Safety Nets: Do you use a Flight Data Monitoring Programme to enable monitoring of Take-off Performance and parameter errors?

- No: 53%.
- Erroneous flap/ slat selection: 44%.
- Wrong runway/ taxiway: 11%.
- Erroneous parameter entry – Weight/ CofG: 11%.
- Wrong runway intersection: 7%.
- Erroneous parameter entry – Other: 4%.

Slido Poll 2 – Operational Events: In the last 12 months, have you identified, observed, or had a take-off performance or parameter error. What kind (select all that apply; this can also implicate ATC):

- None: 54%.
- Erroneous parameter entry – Weight/ CofG: 25%.
- Erroneous flap/ slat selection: 17%.
- Wrong runway/ taxiway: 15%.
- Wrong runway intersection: 15%.
- Erroneous parameter entry – Other: 8%.

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Slido Poll 3 – Technological Solutions: Would you consider that technological solutions can help to prevent take-off data/parameter errors? If Yes, which do you see as being the main areas where it can help?

- Yes to all: 74%.
- Yes, initial data entry check: 22%.
- Yes, acceleration performance check: 16%.
- Yes, runway position check: 16%.
- Yes, other: 5% (Correct flat selection vs performance calculation, Crew awareness through education and training, correct trim/ flap setting/ engine thrust).
- No, SOPs are effective enough: 1%.

Slido Poll 4 – Extended Session on Entry of Performance Data: Would you prefer to have another extended meeting on this topic in the next SAFE 360 forum?

- Yes: 80%.
- No preference: 15%.
- No: 5%.

Questions.

- Very interested to see the real-time possibilities. But how is airbus assuring the "cybersecurity" of this technology systems? The systems are part of the FMS of the aircraft and cyber aspects are a key part of the certification process.

- Are we moving towards too much emphasis on "technological solutions" & not enough emphasis on "competence" of pilots, dispatchers & load-masters? Adding ever-increasing technolgical solutions is like having an increasingly sophisticated spell-checker, which ultimately will result in errors? Technological systems like GPWS and TCAS have showed proven benefits for safety and this type of solution for the challenge of entry of performance data would be great as a long-term solution but panel members also highlighted that in such a complex situations such as this – a purely technical situation is not the full solution to the challenge.

SAFE USE OF AIRSPACE

Renée Pelchen-Medwed (EASA), Michel Rocca (Europe Air Sports), Philipp Wächter (Austro Control), Vladimir Foltin (EASA), Magnus McCabe (NATS), Andrej Kolar (Naviter), Felix Gottwald (European Cockpit Association), Jani Hottola (TRAFICOM)

Introduction to the topic.

- Renée talked about the Key Risk Area of Airborne Collisions and introduced some of the solutions available to reduce the risk in operations in 3 categories: iConspicuity, Airspace and finally, Information and Interfaces. The panel was then introduced that truly covers a 360°view on the safe use of airspace covering commercial and general aviation as well as the ATM community, software/ service providers and also regulators.

Safety and the risk of airborne collisions.

- Vladimir from EASA highlighted that while the number of mid-air collisions have been stable, the number of fatalities have increased in recent years. The accidents most recently involved small aircraft, which is extremely relevant when considering iConspicuity solutions. Vladimir also highlighted the existing EPAS actions in this area.

iConspicuity - Types of Solution.

- In the pre-recorded content, the European Cockpit Association highlighted the benefits of ADS-B and during the session he talked about this key solution and that it might not be the right solution for everyone. European Air Sports also talked about some of the challenges around ADS-B as the only solution and the availability of using mobile devices as another solution. Concerning the ground segment, NATS highlighted cost as a barrier to implementation of iConspicuity solutions, especially given the organizational challenges post COVID-19. Vladimir raised the topic of re-broadcasting as a solution and some of the limitations were discussed about its use in high-traffic areas and the lack of awareness this provides for controllers on the ground.

Airspace.

- Vladimir introduced the topic of airspace of use and design, particularly about how data on infringements along with usage data can be used to help to reduce the complexity of airspace and address congestion or uncontrolled traffic particularly near controlled airspace. With Drones especially there are new demands on the needs for airspace and this highlights the importance of close coordination. A statement and question was received before the live session that “Airspace class is not visible to commercial airline pilots and identified and depicted on available standard aeronautical charts available.

As a layer of safety in this regard, can it be recommended or even mandated that airspace class is put more visible for the makers of aeronautical charts and/or nav database suppliers?" It was confirmed that this is an issue particularly when flying to/from regional aerodromes. The charts typically used by airline pilots do not provide that kind of information and pilots rely on ATC to receive that information.

Information and Interfaces – Build Collaboration.

- The panel talked about the goal of building a total airspace picture to provide accurate, real-time information to all airspace users and those on the ground. There is still work for regulators to do in providing the framework for such a future vision. Pilot's also needed to share their intentions to help airspace users to build up a mental model of what is going on and what is going to happen. There were also challenges with the use of uncertified solutions, that can be effective, but hard to assure in terms of data integrity.

Key Takeaways.

- There are several actions in EPAS on these topics and we will use the outcomes of this workshop to improve them. EASA will be leading many safety promotion and research actions during the coming months and beyond.

Questions.

- Who is the risk owner and responsible for the protection of aircraft and passengers against mid-air collisions? Member States in their design and management of the airspace, according to ICAO the level of ATS services should be commensurate to the level of risks.
- See & Avoid dates back to a period before the jet age, is it still up-to-date to base risk mitigation on this known weak barrier? It is useful in improving situational awareness as a last barrier but in the long term see-and-avoid should not be the only solution with new technological solutions that are becoming available more cheaply.
- Has EASA conducted an analysis of capability of the ADS-B spectrum to support the large number of GA aircraft and drones without any impact on CAT operations? Studies have been done on 1090 frequency saturation in some places if all users will be operating. With extended use there might be a bandwidth problem and any changes to the existing setup need to be properly validated before deployment. This is an ongoing discussion.
- Mobiles offers a cheap way forward, can you envisage ATCOs being allowed to have info that maybe ambiguous or less exact than (eg) ADS-B? Is any information better than no information? The information that ATCO use needs to be of the highest data integrity and fully certified so this is not to be expected at this stage.

MONITORING COVID-19 SAFETY ISSUES WITH FLIGHT DATA MONITORING (FDM)

Guillaume Aigoin (EASA), Leopold Sartorius (ATR), Hasan Mir (Emirates), Rudy Pont (European Cockpit Association), Pedro Duarte (NetJets), Edward Jumi (IATA).

Introduction to the topic.

- Guillaume from EASA introduced the 3 key topics for this session; the impact of COVID on FDM programmes in airlines, FDM monitoring of the COVID safety issues and then the future developments in FDM. During the session the panelists continually referred to an analysis document in the resources section of the SAFE360° Resources page titled "Monitoring of new safety issues arising at the time of the pandemic". This analysis document had been prepared by the panelists for the purpose of this workshop, and was intended to be completed with the feedback from this live session.

Changes to FDM Activities during the pandemic.

- The panelists commented on the challenges that the pandemic brought to FDM activities in aviation. As you might expect, there was a huge reduction in the available data – this presented a problem with feeding results into the SMS of organisations. As operations shifted to cargo operations, more empty flights and also many ad-hoc destinations – FDM was at the heart of effective risk management.

FDM monitoring of the COVID safety issues.

- Some examples on the increasing need for FDM were discussed – particularly to support change management such as the shift to cargo operations or new routes. FDM was able to monitor the early phases of new operations, for example to monitor tail strike risks on cargo flights with passenger aircraft or unstabilised approaches into new destinations. FDM was a vital feedback loop into the SMS. From a pilot perspective, the topic of manual flying skills and specifically glideslope interception from above as something that was useful for pilots to be aware of and for operators to monitor.

Future developments in FDM

- Guillaume asked the panel to comment on the point in the document about the recovery from the pandemic may lead to more FDM events. With the uncertainty, lack of recency for pilots and other factors this is not a huge surprise but organizations should be prepared for an increase in workload for the FDM teams of airlines. For an FDM programme the transition to a higher level of activity will not be as disruptive as the outbreak of the Covid-19 in 2020.

Questions.

- What solution would you propose for Operators with a very small fleet of a/c? Where and how to get the right data if your statistics are not enough? Flight data exchange programmes like that of IATA helped to aggregate data to help use collaboration to get around the challenge of statistical significance of certain events from FDM. There was value in monitoring individual flights as well as there are also valuable lessons to be learned even from a small dataset.

- Which are most important safety topics for monitoring with FDM? TCAS RA (to prevent airborne collisions), GPWS (preventing CFIT) and unstabilised approaches to reduce the risk of runway excursions. Pilot skills monitoring is another useful subject to support and understand with FDM.

- Where can I find useful information on effective FDM implementation. This can be found on the EOFDM webpage of the EASA Website and Air Ops Community.

- Safety and Fleet managers are interested in any FDM events that could be attributed to skill fade. How might we be able to better ascertain (prove?) that any handling type triggered events are purely down to lack of recency. Being able to monitor manual control inputs via all flights measurements is very useful to monitor skill fade. It is important to combine FDM with feedback from occurrence reporting and interviews/ conversations.

- Any negative trend in unstable approaches due to COVID-19? UAs and increased RE risk are commonly under discussion but does the FDM support this hypothesis? There was quickly an increase in the number of unstable approach that were airspeed related due to ATC shortcuts and reduced track miles. This led to late configurations and this has been the subject of continued work by EASA and others during the pandemic.

- How can FDM help with monitoring of aircraft returning to service or following maintenance? Hasan replied that with aircraft in storage for so long, FDM is a great way to monitor parameters such as unreliable airspeed, pressure, etc to detect leaks or other types of failures that could be caused by long periods without flying.

- Does the panel have any thoughts on using LOSA observers to collect data during the ramp-up? Rudy replied that while there are benefits in using conversations and reporting etc is a valuable tool to support safety, in the current situation of many operators, LOSA audits might be too resource hungry at this stage.

FDM BEST PRACTICES

Helder Mendes (EASA), Monica Falcon (Embraer), Christoph Hera (Cargolux), Serdar Şahin (Corendon Airlines)

Introduction to the topic.

- Helder introduced the session and again the focus on expanding on the pre-recorded material on the SAFE360°.

Best Practice for Analysis.

- There are benefits in combining data sources and analysis together that new technology has enabled. Processing time is improved and both data sources can be incorporated together. it is possible to use cloud services and these are very capable these days.

Fatigue and Flight Performance.

- Using FDM to help manage flight crew fatigue, the global flight profile was the trigger to better manage the risk of fatigue by using data from the operator's fatigue tool, the roster information for the pilots and also the FDM data from the Quick Access Recorder. It was useful to identify those who were more likely to be fatigued.

An operators view on FDM.

- An example was provided of an analysis of flight data during landing to support effective approach path management. It is more effective to review the whole approach path and not just specific gates. A scoring process identified those of greatest risk and focus on the more important ones for further analysis and potential follow up action.

Questions.

- What is the difference between FDM and maintenance data? FDM data is available via a quick access recorder and is downloaded and analyses mainly for the purpose of safety. While the maintenance data is used more to identify technical problems and support airworthiness activities.
- How do you determine IMC or VMC when processing flight data? Do you get it from METAR data and how do you integrate it to you FDM software? The METAR data is integrated in another system with the FDM data considering information such as the cloud base etc.
- How are pilots made aware of the new algorithm for monitoring unstabilised approaches and what was their reaction? Meetings with the flight crew training department were then used to update training. Pilots are provided with feedback after every flight and this is a continual conversation with the flight crew.

OCCURRENCE REPORTING

Apostolos Batategas (EASA), Bjorn Vanden Eynde (European Transport Workers' Federation), Julia Behrend (Air France), Deborah Vintner (ATR), Isabel-Clara Barbero (European Commission), Yngvi Rafn Yngvason (EASA), Geert Kinders (EASA), Janusz Strzelczyk (EASA).

Introduction to the topic.

- Apostolos opened the presentation by introducing the panelists and particularly the pre-recorded presentations that are available in the resources part of the SAFE360°website.

Key points from the pre-recorded sessions.

- Occurrence reporting needs to be key part of effective Safety Management and not just because a regulation says you have to. Occurrence reports should contain as much data as possible and of good quality to facilitate an effective safety data analysis.
- Voluntary reporting is not easy, operational staff often only report when they have to and not when they want to or should – we must promote voluntary reporting within the organisations so as to have an effective voluntary reporting system, give our staff feedback and actual take action when they report to keep them interested and engaged.
- A proactive and innovative approach to safety combining occurrence safety data with additional data from new resources and technologies.
- ERCS only has to be used by National Authorities to score occurrences, organisations do not have to use ERCS but EASA is developing promotion and training material to make that as easier as possible.
- Just Culture implementation is still a challenge for front line workers and we must increase our training and promotional efforts so that we engage our operational staff in managing safety risks effectively without focusing on blame.
- ECCAIRS 2 has been implemented across the National Competent Authorities since the beginning of 2021 and will be running at full speed by the end of the year. It will be continually improved and developed over time.

Questions.

- Some of the problems with reporting is caused by the complexity of the taxonomy, why are things so complicated? IIt is always difficult to find enough detail to meet all the needs of the European system without overcomplicating things – the taxonomy was reduced considerably over the past few years and we will provide more coding guidance to help with reporting in the near future.

Questions.

- Is it hard to train staff on handling of voluntary vs mandatory reporting? It is important to have a screening process to effectively triage reports when they are received. It is also useful/ important to have coordination sessions and forums to discuss reports.
- Is there information available about how many staff have been penalized/ punished by their organisations against the Just Culture guidelines. There is no hard data available but there are still too many situations where people are punished, we should really work to do better on this.

RAMP-UP CAMPAIGN
John Franklin (EASA)

John Franklin (EASA) talked about the Ramp-up – Be Ready, Stay Safe campaign and the wide range of resources available on the Air Ops Community Site. The key messages were:

- Go to the EASA Air Ops Community to get access to the Safety issues report and COVID Resources and use the campaign material during the Ramp-up of operations.
- Register for the domain discussions at the EASA Safety Week between 21-24 June (Register via the EASA Website)
- Join the discussion with our Conversation Aviation webinars and the LinkedIn Group.

CONFERENCE CONCLUSIONS
ERICK FERRANDEZ (EASA)

Erick concluded the conference by highlighting not just the number of topics covered but HOW we have covered them.

- Indeed, for each of those safety issues, we have tried to gather, to the maximum extent possible, all relevant stakeholders (Manufactures, Authorities, operators, Pilots, Maintenance Organisations, Ground handlers, ANSP, Airports, and so on…) This is the very spirit of this forum. We want to offer to our community a forum to enable the 360 review of the safety issues.
- A wealth of information and knowledge has been gathered this week. Although many questions you have not been answered, rest assured that we have captured everything and we will analyse everything to use this in our daily work in our collaborative groups and future safety promotion material.
- This event is just another piece in the conversation we want to have with you, join the Air Ops Community and the LinkedIn Conversation Aviation Group. See you next year for more discussions.