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FLIGHT PLAN

A specialist risk publication
for the aviation sector

Gallagher
SPECIALTY

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EXECUTIVE **FOREWORD**

The 7th edition of Flight Plan is brought to you by SOAR, Gallagher's in-house operational safety and risk advisors. In this edition, John Illson, senior director, Safety & Regulatory Operations, Merlin LCC discusses interfaces between internal and external organisations and the benefits of such interfaces. We also have an interesting perspective from Captain Bertrand de Courville on the importance of Safety Leadership in Safety Culture. Gallagher's own Jennifer Russell from Chicago discusses Crisis Communications strategies. Our partner, Simon Stewart from Sirius Aviation has provided a thought-provoking article on the effective use of FDA in Mission Critical Operations.
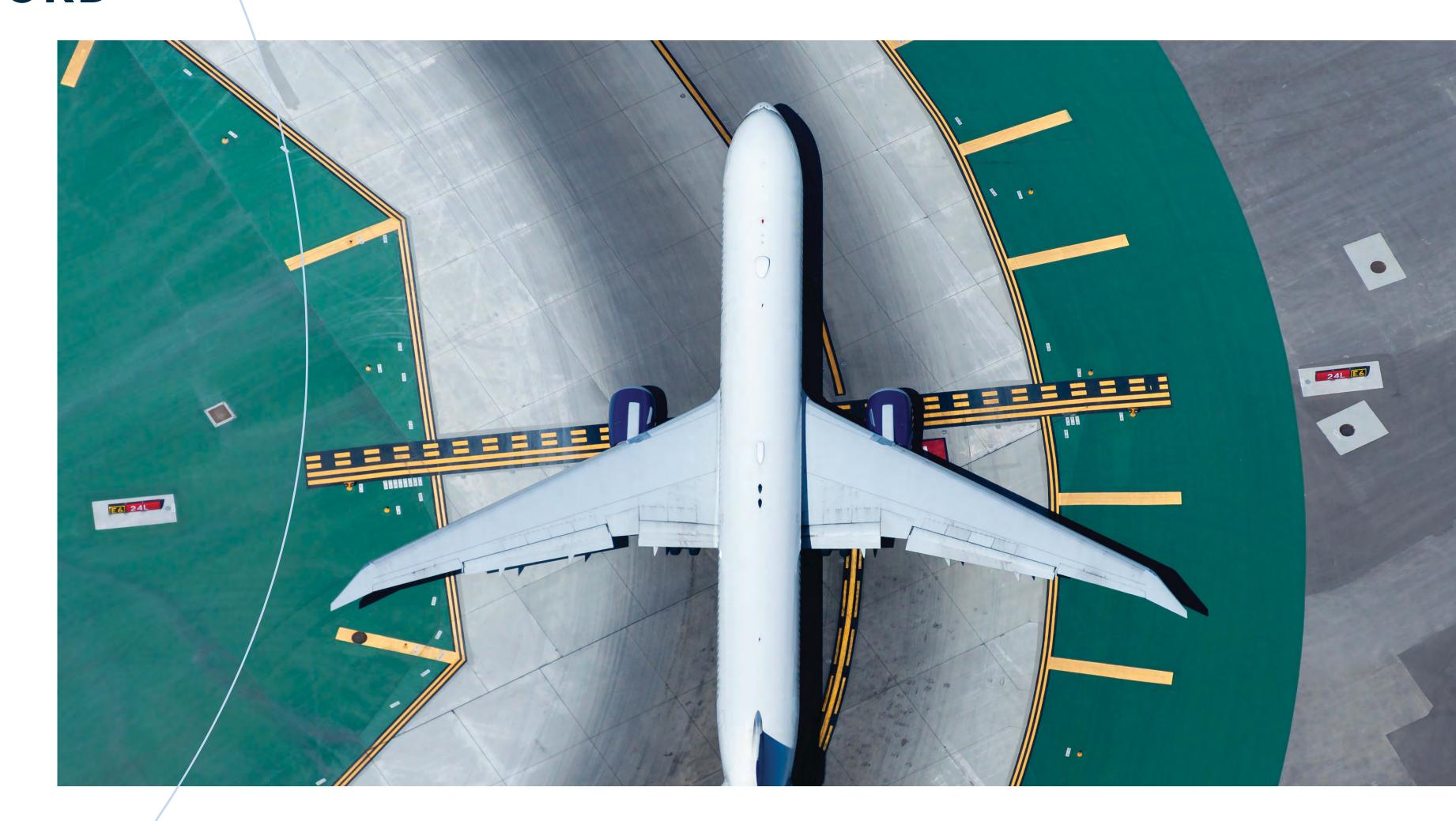
2024 promises to be a busy year for SOAR and we will continue our partnership with Pontifica Javeriana on the Hub Aeronautica and have provided the list of courses we will be supporting this year. In addition, we are working with the Flight Safety Foundation on opportunities with the broking and underwriter communities to enhance safety.

Thank you for reading Flight Plan and if there is a particular topic you would like to see us address or if you would like to contribute an article, please do not hesitate to let us know.

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SMS INTERFACES —
ENHANCING SAFETY MANAGEMENT

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In aviation, Safety Management Systems (SMS) are a cornerstone of operational integrity and safety. SMS implementation has been a priority for aviation service providers since the International Civil Aviation Organisation (ICAO) adopted the Annex 19 Standards and Recommended Practices (SARPs) over a decade ago. The primary goal for individual service providers developing SMS has been to obtain regulatory acceptance or approval. However, given the advancements provided by modern data analytics tools, it is timely to consider the benefits that can be provided by establishing interfaces between a service provider's SMS and other systems relevant to the management of aviation safety risks.

Interfaces define how SMS interacts with other management systems either internally within an organisation or externally across multiple service providers. Both internal and external interfaces play a critical role in identifying potential safety hazards and managing the associated risks. This article focuses on external SMS interfaces between multiple service providers' Safety Management Systems. External interfaces provide a means to assure safety consistent with the interrelationships and increasing complexities of the air transportation system. Potential benefits include enhanced hazard identification, the development of coordinated risk mitigation strategies, and systemic safety performance monitoring.

BENEFITS OF INTERNAL AND EXTERNAL SMS INTERFACES

The international aviation community recognises the value of collaboration in managing safety risk. The ICAO Global Aviation Safety Plan's principles provide a collaborative framework for government and industry stakeholders, with shared learning in safety management being one of the plan's core values. Interfaces are therefore an extension of ICAO principles having the potential to ensure that each organisation's SMS processes are coordinated with those of other relevant service providers.

The sharing of safety information is one aspect of an interface that has been implemented at multiple levels. Industry associations and other groups of voluntary participants have successfully implemented programmes that aggregate data from multiple sources, such as the International Air Transport Association (IATA) Incident Data Exchange programme. These initiatives typically involve collaboration among similar aviation organisations, creating a pool of data capable of proactively identifying safety trends. Other initiatives have successfully fused data from multiple types of service providers, enabling holistic analyses of systemic safety issues. Examples include the use of data provided by air operators, aerodrome operators, and air traffic service providers to study and remediate risks associated with unstable approaches and other occurrences in the runway environment.

Information sharing has been a key factor in attaining aviation's excellent safety record. Nonetheless, there are opportunities to extend this collaborative approach to other elements of the SMS framework, and the benefits can be compelling. Comprehensive SMS interfaces have the potential to detect systemic safety trends and associated contributing factors in a more predictive manner. Attainment of these benefits requires additional time and effort by all parties involved. In addition, policies are required to ensure the appropriate use and protection of any data or information used to support interfacing Safety Management Systems.

REAL WORLD APPLICATION

Interfaces typically include combinations of the aviation services providers required to implement SMS according to the ICAO standards, such as approved maintenance organisations, approved training organisations, commercial air operators, certified aerodrome operators, and providers of air traffic services, as well as organisations responsible for the type design and manufacture of aircraft, engines, and propellers.

External interfaces may be established within groups comprising one type of service provider (e.g., a group of air operators) to manage risks associated with a single aviation discipline. Organisations use these interfaces to identify common hazards, compare risk mitigation strategies, and benchmark safety performance.

Alternatively, SMS interfaces can be established cross-functionally, creating interactions among multiple types of service providers relevant to a specific safety issue. This approach can be particularly helpful in assessing systemic safety risks and coordinating mitigation strategies implemented across multiple disciplines. As mentioned, air operators, aerodrome operators, and air traffic service providers have engaged in collaborative efforts to mitigate runway safety risks using this approach. Interfaces that connect the Safety Management Systems of other service providers may be used to coordinate the management of other types of risk, such as those associated with airworthiness or air traffic management.

Merlin, a developer of advanced flight technology, is developing interfaces that connect the SMS implemented by its design and manufacturing organisation with those implemented by the operators of aircraft in which Merlin's technology is installed. By developing interfaces between all relevant elements of the ICAO SMS framework, Merlin is establishing a scalable approach that can be leveraged by future service providers adopting, operating, maintaining, or training people to use its technologies.

SMS AND AI INTEGRATION

As interfacing SMSs are established, the integration of artificial intelligence (AI) has the potential to be a game changer, transforming a fundamentally proactive approach into one that is more predictive. With AI, SMS interfaces could perform many critical safety functions automatically and continuously, as well as identify hazards through predictive analytics. By analysing patterns and identifying trends in near real-time, AI can predict and flag potential issues before they arise. SMS also involves substantial manual data entry, a time-consuming process that is prone to human error. AI can automate this task, saving time and minimising the potential for error.

In the aviation industry today, predictive maintenance has already become an essential tool for identifying unexpected faults, among other key benefits. AI-driven transportation management tools have also proven highly effective in logistics, analysing huge datasets quickly, providing guidance on forecasting supply and demand, and even predicting and discovering consumer habits. These existing applications are gateways for safety management professionals to begin imagining how tools such as AI can transform the industry's approach to safety.

REALISING POTENTIAL

Interfacing SMS across various entities offer substantial safety benefits, including improved hazard identification, coordinated risk mitigation, and enhanced safety performance monitoring. These interfaces, pivotal for leveraging shared data and collaborative insights, lay the groundwork for a more interconnected, holistic, and systemic approach to safety in the increasingly complex aviation landscape. Established from the outset, these interfaces can prove especially beneficial for service providers adopting emerging technologies.

Once established, the integration of AI has the potential to amplify the benefits of interfacing SMS, performing predictive analytics and automating data processing to anticipate and mitigate risks. As AI tools are leveraged, developers and entities must carefully consider challenges, such as the explainability of AI decisions and the security of AI-driven systems against cyberthreats, among others. As the aviation industry moves towards a more technologically advanced and predictive approach to safety management, addressing these concerns will be critical in realising the full potential of AI-enhanced SMS interfaces.

CRISIS COMMUNICATIONS

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"2023 safety performance continues to demonstrate that flying is the safest mode of transport. Aviation places its highest priority on safety and that shows in the 2023 performance. Jet operations saw no hull losses or fatalities. 2023 also saw the lowest fatality risk and all accident rate on record. A single fatal turboprop accident with 72 fatalities, however, reminds us that we can never take safety for granted. And two high-profile accidents in the first month of 2024 show that, even if flying is among the safest activities a person can do, there is always room to improve. This is what we have done throughout our history. And we will continue to make flying ever safer," said Willie Walsh, IATA's Director General. International Air Transport Association, 2023 Annual Safety Report.

While IATA's safety report is reflective of the industry's dedication to prioritising safety, the inherent risks associated with the fast-paced nature of the aviation industry with constant innovation and development, cannot be underestimated or ignored. Even though the results of safety initiatives are being realised, it is inevitable that accidents and claims will occur. An organisation's preparation, training, and discipline when an incident takes place is the difference between control and chaos. This period of commendable safety performance is not the time for crisis planning complacency. On the contrary, it is the optimal time to test, update and refine — or create — your organisation's crisis response plan.

A carefully crafted response plan is critical in the minutes, days, weeks, and years following an accident or incident. Every aspect of a response plan is critical, however, internal and external communication in times of crisis can often be determinative of the reputational impact on an organisation after a major incident, not to mention an organisation's liability positioning in the years to come. In the event of a crisis, how an aviation organisation communicates its response can have a significant impact on its public image and brand reputation.

How the world communicates is constantly evolving and your organisation's post-incident communication plan needs to evolve with it or risk your message disappearing in the flood of other communications regarding the incident or accident. In today's lightning-fast world of social media, it is conceivable that within minutes of an aviation disaster, photographs, videos, and audio could be disseminated from witnesses on the ground or passengers in the air. Not to mention, the immediate presence of the news media, and any person with a mobile phone becoming an instant commentator and aviation expert live streaming from the scene with simultaneous dissemination on social media. Refining your crisis communication plan after an incident, in this age of instant communications is too late.

As a threshold matter, all crisis communication planning will be unique to your specific organisation. It needs to take into account your size, the resources available to you, your areas of operation and your potential role in an aviation disaster scenario. There is no single template that can fit each organisation, although one universal challenge is addressing the speed by which information, accurate or not, is within the public domain. A robust crisis communication plan will consist of detailed roles, responsibilities, and accountabilities which will address both internal communications within your organisation as well as external communications disseminated from your organisation to others, including news outlets, social media platforms as well as regulators and various investigatory bodies.

An internal chief crisis communicator or communications team should be identified and defined within the plan, and updated and revised on a scheduled basis. This internal team should be trained, familiar with their roles and responsibilities and be able to mobilise immediately after an incident. The team could consist of company leaders, representatives from key operating groups, safety personnel and investigators, company counsel, as well as professionally trained communicators. No doubt there will be a flurry of communications within your organisation in the aftermath of an incident and accident, however, the internal communications team should provide internal direction and discipline on the appropriate means of essential vs non-essential communications, and the methods by which information will be shared internally, whether it be by daily/hourly update calls or meetings and identify who within the organisation should be required participants.
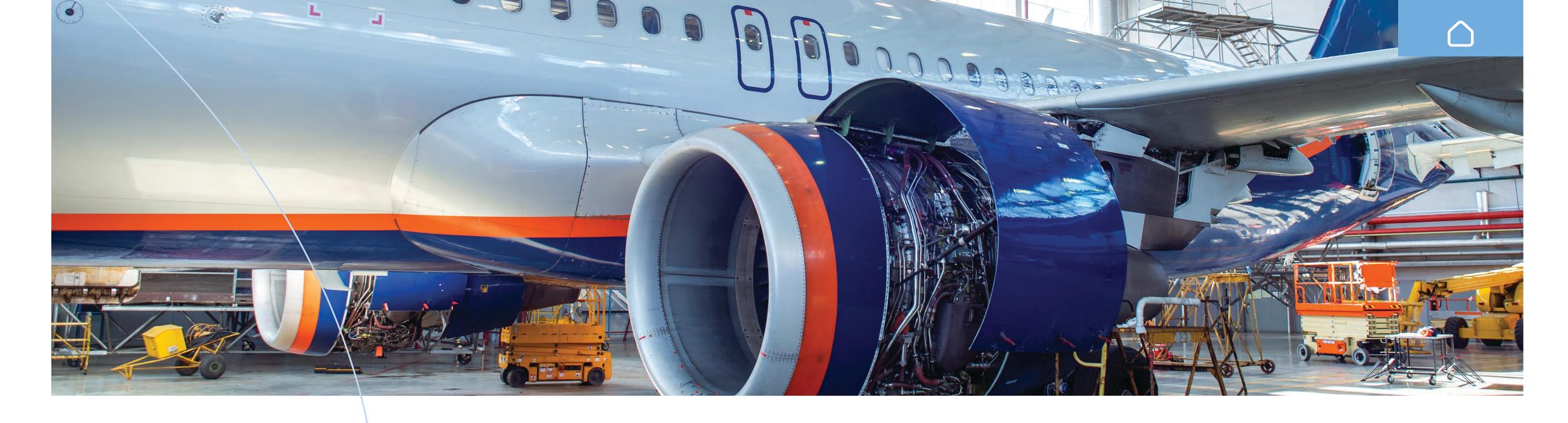
Minimising the confusion and internal chaos is paramount, as well as knowledge by all involved of the necessary communication protocol. Picturing the filing of the inevitable lawsuit stemming from the incident, the lack of discipline surrounding immediate post-accident communications, where individuals inside your organisation are hypothesising or advancing opinions on what could've gone wrong, as opposed to sticking to the facts, will prove hazardous.

This team would also be responsible for providing updated factual information to internal stakeholders. In addition, an efficient and effective crisis communication plan must take into account the many external stakeholders and their information needs in a post-incident/accident environment. External stakeholders could range from members of the media to customers to regulatory agencies and investigatory bodies.

Your organisation's existing policies and procedures relating to external communications, including the news media and various social media platforms can create the foundation from which the crisis communication plan can be formulated. Many organisations provide education and training to employees and have specific policies aimed at handling media requests and directing media to a specific communications team that provides the organisation's only authorised response. This allows for a consistent and coordinated organisational response, which is especially critical in a crisis situation. When reviewing your organisation's existing media and social media policies and procedures, evaluate them through the lens of your organisation's overall crisis response imperatives.

At the outset, the organisation's communication team must be fully apprised and up-to-date on what items can be discussed publicly following an accident. For instance, if an accident occurs in the United States or its territories, the investigation is controlled by the National Transportation Safety Board (NTSB), and it sets forth various prohibitions concerning communications that must be fully understood. Moreover, the communications team should have a checklist detailing the regulatory and investigative notifications that are required to be done in case of an incident and accident within the US or any other territory your organisation operates. The plan should also identify the point person for communications and requests from the authorities to be addressed by your organisation. Separate from the regulatory notifications, a notification checklist should be maintained with contacts within your organisation as well as those outside your organisation that are available to mobilise to provide assistance, which could range from your insurer or broker to your outside counsel or third-party surveyor or safety consultant. The contact checklist, however, is only as good as its last update, so it should be reviewed and revised on a scheduled basis to account for personnel changes and movements.

The aviation industry constantly challenges itself, to implement new ways to become safer on the ground and in the air. While great strides in safety have been accomplished, accidents and claims will occur. How an organisation responds in the face of an aviation accident can define it in the future. A comprehensive emergency response plan with a detailed and up-to-date crisis communication strategy addressing internal and external communication protocols will chart the path for an organisation to respond to a crisis in a proactive coordinated way.

LASC
OVERVIEW

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The LASC is a safety training facility administered by Pontificia Universidad Javeriana through the Hub Aeronautico, which is one of the oldest, most traditional and prestigious Colombian universities. The Hub Aeronautico offers an Aviation Safety Certificate (ASC) programme that supports the aviation industry to enhance operational safety, risk, and compliance through educating aviation personnel in safety management principles. All courses are delivered in Spanish and at reduced costs compared to similar offerings in other regions.

The courses are facilitated by recognised industry experts with programme content based on ICAO Annex 19 (Safety Management), Doc 9859 (Safety Management Manual), quality management principles and industry best practices. This certificate programme will offer the aviation industry initial and advanced training in matters of safe and compliant operation.

Since the programme is based on international aviation regulations, it is well-suited to any operator wherever it is based, no matter which local regulations apply to their particular activity. Therefore, it is open to airlines, Fixed Based Operators (FBOs), aeronautical authorities, air navigation services providers, ground handling operations, fuelling companies, Maintenance and Repair Organisations (MRO) and the industry at large.

The Hub Aeronautico has the opportunity to address safety/risk management issues in the region and is an extremely important initiative that has been endorsed by many organisations in the area.

In 2023, we offered our flagship course Aviation Safety Management Systems training; this year we will be offering an additional five courses which will allow us to continue providing the ASC programme for the region. The following courses are on offer.

- **Operational Risk Management:** R2ORM
  32 hours completed in person
- **Incident Investigation Training:** R4ORM
  32 hours completed in person
- **Aviation Technical Regulations:** R5ATR
  24 hours completed virtually
- **Aviation and the Environment:** SB1AE_V
  16 hours completed virtually
- **Safety Performance and Governance:** SB3
  16 hours completed virtually

Additional information and registration for all of these courses can be found here:
https://educacionvirtual.javeriana.edu.co/ruta-hub-aeronautico

OPERATIONAL RISK MANAGEMENT TRAINING

This module will be completed in a classroom setting and provides an overview of safety risk management principles, hazard identification, risk assessment techniques, causal factor analysis and risk mitigation and control strategies. The course covers enterprise and operational risk management and its relation to SMS as well as risk-based governance and decision making by management teams of aviation organisations. Practical tools will be introduced such as Bow-Tie and ARMS methodology and causal factor analysis techniques supporting the risk-informed governance process. The course will include exercise sessions to support the application of the tools in an operational environment.

DATES: 17–20 September 2024
LOCATION: Javeriana Campus, Bogota

INCIDENT/ACCIDENT INVESTIGATION TRAINING

ICAO Annex 13 defines an investigation as a process conducted for the purpose of accident prevention which includes the gathering and analysis of information, the drawing of conclusions, the determination of causes and, when appropriate, the making of safety recommendations.

This course will be completed in a classroom setting and provides an overview of ICAO Annex 13 and the methods and skills required to investigate incidents and accidents; it is designed for individuals who have limited investigation experience. Material covered includes how to plan and conduct investigations, the difference between accidents and incidents, the importance of conducting thorough investigations, report writing and how to effectively incorporate the resulting safety recommendations into the organisation. Practical application of the tools will be accomplished to ensure the material is understood.

DATES: 15–18 October 2024
LOCATION: Javeriana Campus, Bogota

AVIATION TECHNICAL REGULATIONS

The Chicago Convention (also known as the Convention on International Civil Aviation), established the International Civil Aviation Organisation (ICAO), a specialised agency of the United Nations charged with coordinating and regulating international air travel. The convention was signed by 52 states on 7 December 1944 in Chicago, Illinois, US, and came into effect on 4 April 1947. Following this came the initial introduction of ICAO Safety Management related SARPs, across multiple ICAO annexes. The safety management SARPs are intended to assist States in managing aviation safety risks, in coordination with their service providers. Given the increasing complexity of the global air transportation system and its interrelated aviation activities required to assure the safe operation of aircraft, the safety management provisions support the continued evolution of a proactive strategy to improve safety performance. The foundation of this proactive safety strategy is based on the implementation of a State safety programme (SSP) that systematically addresses safety risks, in agreement with the implementation of the safety management systems (SMS) by the service providers. This course will be completed virtually and reviews the establishment of ICAO, and the SARPS as they pertain to managing aviation risks and the areas subject to regulatory activities covered by the annexes to the convention.

DATES: 05–07 November 2024
LOCATION: Virtual

AVIATION AND THE ENVIRONMENT

CORSIA offers a harmonised way to reduce emissions from international aviation, minimising market distortion, while respecting the special circumstances and respective capabilities of ICAO Member States. CORSIA complements the other measures by offsetting the amount of CO2 emissions that cannot be reduced through the use of technological improvements, operational improvements, and sustainable aviation fuels, with emissions units from the carbon market.

This course will be completed virtually and covers:
- Regulation related to the operation of aircraft
- Structure and aspects of the CORSIA scheme
- Regulation related to the operation of aerodromes

DATES: 27–28 November 2024
LOCATION: Virtual

SAFETY PERFORMANCE AND GOVERNANCE

Safety planning and governance represents a core function of the Safety Management System (SMS) that enables the setting of an organisation's safety objectives and targets, oversight and monitoring of the safety system as well as the identification of the necessary means and resources for continuous improvement of safety performance. The development of a safety plan for an organisation provides a common framework for the strategy, objectives, and safety targets for all stakeholders. It also provides the roadmap from initial engagement, communication of stakeholder plans and governance/control for the successful delivery of safety initiatives. This course will be completed virtually, providing an overview of safety planning and the methodology to include safety within the corporate strategy and initiatives. Information will be provided on performance indicators and oversight of safety programmes.

DATES: 04–05 December 2024
LOCATION: Virtual

THE IMPORTANCE OF SAFETY LEADERSHIP IN SAFETY CULTURE

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During my career as a pilot, I had the chance to experience the extraordinary evolution of commercial aviation. The aircrafts I flew ranged from old generation jets we like today to call 'Jurassic planes', to the digital age aircraft with fly-by-wire and advanced safety devices.

I witnessed similar changes in the way safety was managed. During the Jurassic period, not long before I started my professional life, safety was seen as a natural result of reliable and well-maintained aircraft, experienced and disciplined pilots, and strict compliance to all regulatory requirements. When not ignored, human errors were considered a regrettable aspect of aviation. The word 'risk' was a taboo. Nobody dared to write that flying, loading, and maintaining aircraft create risks that had to be managed. Airlines used to name an experienced captain as a safety advisor to the top management. They were some kind of safety gurus. CEOs honestly believed that safety was not part of their job. Legal departments occasionally suggested adjustments to the organisational chart to add layers between CEOs and safety issues. At the front line, reporting and safety information sharing was limited, both internally and within the industry.

Such was the culture prevailing at that time. Today, safety is managed without waiting for accidents to occur. Hazards and risks are openly mentioned and addressed. Human errors are recognised, analysed, and anticipated as far as possible. Top managers and CEOs consider safety as part their scope. Most of them understand their contribution to safety and how they could influence it positively or negatively. Safety leadership and safety culture were drastically transformed.

HOW DID THIS CHANGE HAPPEN?

There are too many reasons to mention them all. Remarkable people and leading organisations played a key role. Two examples come to mind.

The first one is related to the early role of FDM[1] programmes of two pioneer airlines in Europe. Until the mid-60s, flight data recorders were exclusively exploited for accident investigations. The certification of the first autoland systems[2] brought a different perspective. Because recorders were used to monitor the autopilot performance during autoland, it appeared that the nature and the amount of data made available could help to monitor many other aspects of the flights. So, why not use them to learn from daily operations?

[1] Flight Data Monitoring (or FOQA for Flight Operation Quality Assurance in the US).
[2] Caravelle in France and the Trident in UK were first certified.

The confidentiality of data was an issue but people of goodwill, from pilots' organisations and airline management were deeply convinced that, if properly used, recorded data could contribute efficiently to prevent accidents.

They were able to establish and sign the first FDM agreement[3] between pilot association and airline management. A periodic safety bulletin was published to share anonymously the most significant FDM events. Without being fully aware of it, these visionaries paved the way to modern safety information sharing, just culture and the basics of safety assurance. This was done years before any regulatory requirement thanks to a few people. When I began my professional life, our FDM programme was already 10 years old. It was well accepted, and the agreement has never been breached since. This has a deep effect on our airline's safety culture.

Some years later as a young manager, I was tasked to organise an internal safety seminar. I visited Dr. James Reason at Manchester University. He had kindly agreed to come to Paris and to speak. We worked together on the messages to be delivered. The airline culture was very 'compliance-oriented'. We wanted to make it more safety-oriented. "How does an organisation remember to be afraid when it has not had a bad accident in the very recent past?" and "Will the things done yesterday and today continue to protect the airline tomorrow?" were the types of questions we discussed. With his sense of humour and pedagogic talent, James Reason convinced the attendees to 'add a zest of paranoia' at each level, referring to Earl Wiener's philosophy, policy, procedure and practices. He agreed to say that the amount of zest should be kept reasonable. More importantly, he presented and explained his safety model which, once simplified, later became the famous Reason's 'Swiss cheese model'.

How far the managers remembered the zest of paranoia is not clear, but the Swiss cheese model changed the way managers looked at safety. After a bad event, the usual suspects at the front line were less and less considered in isolation. Organisational factors become part of the analysis. We know this metaphor was so powerful, that it spread out within the aviation world and beyond. Here again, this was a question of influence, not compliance.

These two examples demonstrate how safety is also a question of influence, not only regulation and authority. How do we put it into practice?

Some years ago, Delta Air Lines and Air France, the two SkyTeam Alliance co-founders, were mutually presenting their safety organisation. We were different by our size, aircraft fleets, network, and operational culture but we shared the same vision of our role as safety managers. On one slide somebody wrote: "We (safety managers) do nothing." These were provocative words, but the meaning was clear for all: our role is to support, inspire, and guide to make decisions and actions at all levels as safe as possible, not to act in place of the people. From senior management to front-line actors, this is done by providing them with credible information, without being hierarchical to the people we are talking to. The principles were simple. Putting them into practice was another story. Crying wolf wrongly, or too often and you are not listened to anymore. Being ignorant of management constraints and front-line daily environments, and targets will be missed. This must be finely tuned.

This is where safety leadership and safety culture meet.

[3]This was done in 1974 at Air France and in 1975 at British Airways.

COLLABORATING TO ADVANCE
AVIATION SAFETY

A Flight Safety Foundation & Gallagher Specialty Workshop

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In a significant step towards enhancing aviation safety, Gallagher Specialty's Aerospace team recently hosted a workshop in collaboration with the Flight Safety Foundation (FSF), lead airline underwriters, and major airlines. The workshop aimed to boost collaboration and discuss ways to advance safety within the aviation industry.

Chaired by Peter Elson, CEO of the Gallagher Specialty Aerospace division, Dr. Hassan Shahidi, president of the Flight Safety Foundation, and Eduardo Dueri, senior partner Gallagher Specialty, the workshop brought together key stakeholders from various insurance companies and airlines. Underwriters representing Allianz, AIG, Convex, Global, and Starr were joined by airlines Aer Lingus, Fly Norse, Lufthansa, Norwegian, and Ryanair.

Peter opened the workshop by emphasising the significance of this gathering. It marked the first time this particular group of stakeholders had come together to discuss how to further enhance safety across the industry and explore opportunities for collaboration. He stressed the importance of continuous improvement in safety, highlighting that it is not a static concept. The industry must strive to do even better, to address new and emerging risks.

One of the key topics discussed during the workshop was, the need for aviation organisations to not only establish a documented Safety Management System (SMS), but also demonstrate its effectiveness. Considering the size, scope, and risk appetite of their operations, organisations must go beyond mere compliance. Peter took the opportunity to remind the audience about our very own Insurance Safety Advisory Tool (ISAT), which serves as an essential tool for assessing the effectiveness of an aviation organisation's SMS. Dr. Shahidi, president of the Flight Safety Foundation, and co-host of the workshop, expressed his gratitude to all participants and emphasised the importance of open and fruitful discussions. Dr. Shahidi expressed his desire to foster more sessions like this and stressed the need to conclude with specific tasks and collaborative approaches to advance safety worldwide.

The workshop consisted of four sessions, each focusing on a particular topic and encouraging participation from the diverse stakeholders in attendance.

SESSION 1 featured a presentation by Mark Millan, Flight Safety Foundation Technical Director, who discussed the safety challenges faced by the aviation industry. He introduced the Flight Safety Foundation as an independent, international, and impartial nonprofit organisation dedicated to championing aviation safety. Mark provided an overview of the foundation's global events, including the Runway Excursion Prevention Plan, the International Aviation Safety Seminar, and regional safety assessments on business continuity, emergency response planning and SMS held in the Middle East, Africa, Latin America, and Asia Pacific. He highlighted future challenges that demand the industry's attention, such as automation, supply chain management, safety culture, information sharing, climate change, human factors, mental health, and the need to strengthen and measure the effectiveness and maturity of Safety Management Systems (SMS).

Moving forward, Gallagher Specialty and the Flight Safety Foundation are committed to working closely with underwriters and airlines to promote safety initiatives and foster collaboration.

SESSION 2 titled 'Managing SMS Effectiveness', was chaired by Sandy Lonsbury, senior advisor, who introduced Gallagher's Safety & Operational Aviation Risk Solutions (SOAR) practice and emphasised the significance of utilising SMS effectiveness tools. Sandy drew attention to different tools in the industry, including Gallagher's ISAT, SMS Maturity Assessment and Refinement Tool (SMART), and the SM ICG SMS Evaluation Tool as valuable resources. While ISAT was initially designed as a standardised safety/risk information tool, for organisations to provide safety performance information during the renewal process, it has also proven to be an excellent measurement tool for SMS effectiveness. This area presents a potential collaboration opportunity between brokers, underwriters, and the industry at large.

SESSIONS 3 AND 4 of the workshop, consisted of a panel discussion involving the underwriters present and a general roundtable discussion. The underwriters expressed their appreciation for the efforts and candid discussions on aviation safety during the workshop. They conveyed their willingness to continue the dialogue and collaborate with the Flight Safety Foundation (FSF), Gallagher, and other stakeholders on safety matters.

Regarding the information required during renewal, underwriters acknowledged that while they are not safety experts, they recognise and value the safety information received at that time. Some underwriters want to obtain consistent and potentially standardised aviation safety information from clients/brokers during renewals. They also expressed interest in pursuing safety initiatives that address attritional losses and emphasised the importance of additional investments and methods to measure the effectiveness of safety leadership and safety culture in aviation organisations.

Underwriters reiterated that the Risk Management Bursaries (RMB), or the amounts they are willing to contribute to safety initiatives, should be used exclusively for safety/risk issues where clients require additional support and may lack the necessary resources or expertise.
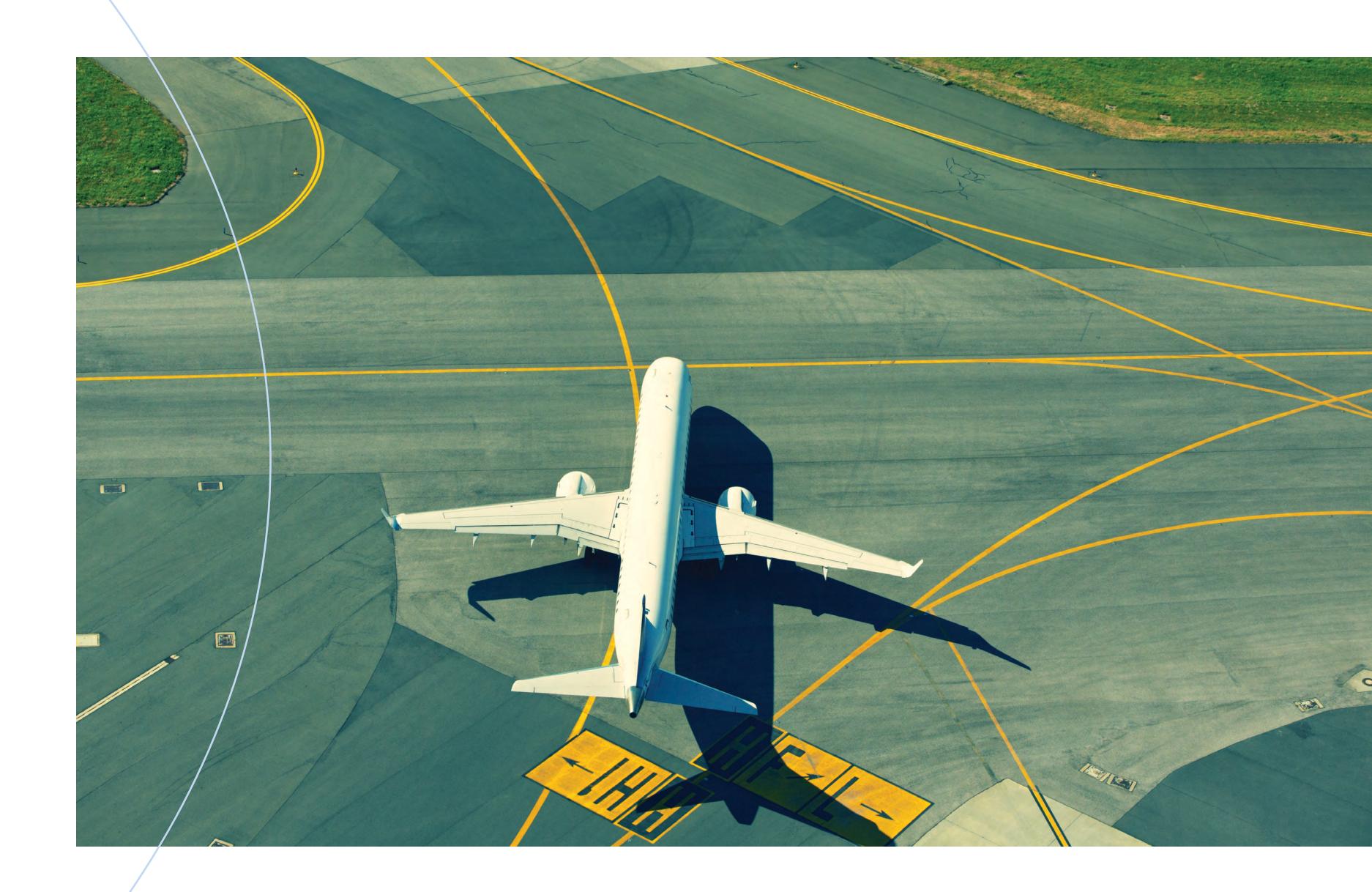
The airlines recognised the value of SMS effectiveness tools, such as ISAT, in advancing aviation safety. Additionally, the airlines expressed the need to gain a better understanding of the financial impact of safety initiatives, in order to obtain management support. They also requested market support in change management and addressing emerging safety risks, including issues like AI and cabin air quality. The airlines demonstrated a willingness to share data to enhance intelligence on existing risks and identify effective solutions.

Overall, the group collectively began the process of finding the right opportunities for collaboration that included SMS effectiveness (ISAT or similar), safety culture and/or emerging risks. Moving forward, Gallagher Specialty and the Flight Safety Foundation are committed to working closely with underwriters and airlines to promote safety initiatives and foster collaboration. By leveraging the expertise and resources of all stakeholders, we can collectively enhance aviation safety and ensure a secure and reliable industry for all.

Stay tuned for more updates on our collaborative efforts in future editions of Flight Plan.

For more information on ISAT and other service offerings, please visit:
https://www.ajg.com/gallagher-specialty/safety-and-operational-aviation-risk-solutions/

FLIGHT DATA MONITORING IN
MISSION CRITICAL OPERATIONS

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www.siriusav.com

Flight Data Monitoring (FDM), also known as Flight Operations Quality Assurance (FOQA), is the routine collection and analysis of flight data to generate objective and predictive information to improve flight safety. FDM is described in EU OPS as a component of an operator's (Safety) Management System. The capability is the systematic, proactive and non-punitive use of digital flight data from normal operations to improve crew training and aviation safety performance (CAA, 2013). EU Ops Regulation ORO. AOC.130 states that "The flight data monitoring system shall be non-punitive and contain adequate safeguards to protect the sources of the data." Typically, this requires the source of the flight data to remain confidential but does permit the use and publication of de-identified FDM trends.

Although FDM has been predominantly associated with large commercial airlines over the last four decades, it has now become an integral part of operations oversight for non-airline operators e.g., Oil and Gas transport (offshore and onshore), Helicopter Emergency Medicals (HEMs), Search and Rescue (SAR) and firefighting operations (FF). During the 1990s, the UK CAA, along with Shell and a North Sea helicopter operator, conducted research into FDM applications supporting helicopter operations. As a result of the research, FDM became a mandated customer requirement for offshore operations worldwide.

FDM equipment and technology have progressed especially over the last decade making 'lightweight' FDM systems available for smaller operators and mission-orientated markets such as HEMS, SAR, and firefighting helicopter fleets.

REGULATION

In the USA, FDM is now mandated for HEMs operations regardless of aircraft size (AC135-14B, FAA 2015). The UK CAA has mandated FDM, as a requirement, for police air operations and SAR as outlined in UK CAA Safety Directive 2018/002. Within the EU, FDM can be applied to support crew training against the risk environment thus, Flight Data Monitoring requirements applicable to an Alternative Training and Qualification Programme (ATQP) are laid down in Commission Regulation (EU) 965/2012, Annex III (Part ORO), paragraph ORO.FC.A.245. Therefore, FDM is used to support the establishment, operational, and training objectives based upon an analysis of the operational environment through the monitoring of the effectiveness of flight crew training and qualification.

APPLICATION

In practice, FDM capability means continuously recording flight parameters throughout the flight, routinely collecting this data from aircraft, and processing the recordings with the help of specific software, to extract safety-relevant information, such as deviations from the operating procedures or abnormal parameter values. The main focus of an FDM programme is to provide enhanced levels of assurance over flight operations, driving improvements in Flight Standards monitoring through the capability to identify and mitigate operational risks.

FDM also supports the SMS in the investigation of incidents and accidents by providing the operational context (analysis of flight data including trigger 'gate' events supporting identification of undesirable trends and operational metrics) leading up to and recovery from an event. SMS provisions under just culture require that all incidents are investigated 9in a just and fair manner to permit lesson to be learned and continuous improvement in safety and crew training standards.

The FDM process should also include engineering gatekeepers who are informed immediately that an airframe or engine limitation, 'red limit' exceedance is identified. It is good practice to incorporate 'amber limits' for engineering where appropriate to allow trending and ensure that the engineering understanding of operational usage profiles is correct. However, engineering gatekeepers should not approach the flight crew, they should liaise through flight crew gatekeepers.

A well-implemented FDM programme will allow an organisation to:
1. Detect trends in operation that are adversely affecting safety, even before they result in a serious incident.
2. Reliably capture safety-relevant events during operation, even if they were not reported by the flight crew.
3. Build and maintain a complete and accurate picture of the safety risks, which is essential for an effective safety management system (SMS).
4. Verify the effectiveness of corrective actions (corrective training, change to operating procedures, equipment retrofit, etc.).
5. Support engineering investigations.
6. Implement FDM data protocols and event definitions that are tuned for the operation concerned. This broad data-gathering period can also be used to validate safety assumptions and operational safety cases by type and role.

Thus, an implemented FDM programme compares collected and analysed data trends against approved procedures and Flight Standards to enhance operational safety through improvements in the following areas:
- Standard Operating Procedures (SOPs)
- Flight Crew Training
- Aircraft maintenance and technical performance monitoring
- Crew performance monitoring

FDM 'gates' should be regularly reviewed with role specialists through FDM working groups (FF, SAR, HEMS) to ensure that performance oversight is effective in maintaining standards and identifying new risks.

Such groups provide as output:
- Interfacing with the safety/training departments: A specific definition of manoeuvres that may be considered necessary in role, so as to support SOPs development and FDM event search algorithms.
- Defining training needs of crews on specific manoeuvres needed in role context.
- Improvements to the FDM system approach in intercepting phenomena indicative of risk in these operations and promoting a change in culture, adherence to standards, and sensitivity to event reporting with company crews.

FDM provides objective safety data and has become a key component of an operator's Safety Management System. FDM represents a critical capability in operations and safety oversight driving the effectiveness of training programmes and development and refinement of Standard Operating Procedures (SOPs). The FDM programmes helps monitor risk mitigation measures and also provides the feedback of results to line crews and technicians.

LET'S **TALK**

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