

30 Data Sources for Building Your Aviation Hazard Log / Risk Register

Sofema Aviation Services (SAS) www.sassofia.com considers the various sources of data which can be used to populate the organisations hazard log / risk register.

An effective EASA compliant Safety Management System relies on the accumulation and management of data as a primary source of information which can be analyzed and assessed. The challenge for many organisations is to consider where this data can be generated.

The following list identifies sources of Data which can be used within your organizational Safety Management System (SMS) and goes some way to answer the question how can we gather data for our SMS system.?

- 1/ Flight Operations Data Analysis (FODA) / Flight Data Monitoring (FDM)
- 2/ FODA-Campaigns (subject specific in-depth analysis)
- 3/ Flight Reports
- 4/ Cabin Reports
- 5/ Maintenance Reports
- 6/ Confidential Safety Reports
- 7/ Operations Control Reports
- 8/ Reports of the NAA
- 9/ Crew Surveys
- 10/ Crew Observation Line Operation Safety Audit (LOSA)
- 11/ Investigations & Hearings
- 12/ Partner Airline Assessments
- 13/ Quality Assurance Programme (Quality Audits & Reports)
- 14/ Training records (e.g. crew periodic checks, simulator checks and training, line checks, etc)
- 15/ Type Certificate Holder Reports
- 16/ SIE safety information exchange programs
- 17/ Safety Reporting
- 18/ Observation of Maintenance Operations
- 19/ Safety Audits
- 20/ Safety Culture Monitoring Through Surveys

- 21/ Internal Safety Investigations
- 22/ Ad-hoc Questionnaires on chosen Safety Issues
- 23/ Internal Safety Workshops
- 24/ Company Voluntary Reporting System
- 25/ Ground Handling Reports
- 26/ Flight and Duty Time Discretion Report
- 27/ Flight Operations Monitoring
- 28/ Accident reports
- 29/ Assessment of Subcontractors
- 30/ Feedback from Human Factor training courses

Detailed Description of Data Source

Flight Operations Data Analysis (FODA) / Flight Data Monitoring (FDM)

- Historically airlines performed FDM, the opportunity exists to use this data for more comprehensive SMS related activities, which can also lead to efficiencies.

FODA-Campaigns (subject specific in-depth analysis)

- Data can be used to understand not just organisational exposures but also to consider where waste is occurring, projects can be undertaken to monitor for example fuel burn, tire and brake unit wear, mass and balance.

Flight Reports

- Each and every flight has a voyage report, the opportunity exists to use this as a vehicle to capture SMS related data across a range of operational related experiences, each and every comment is valuable for the SMS.

Cabin Reports

- Adopting a cabin reporting system for every flight will also guarantee the opportunity to gather data within the cabin environment. Of course guidance has to be provided as to what data is sought but this is the fundamental purpose of the SMS, indeed such understanding is a fundament of the need to provide training to all groups

Maintenance Reports

- All maintenance checks could require the need to report status across the range of activities including facilities, manpower, logistics, documentary procedures. Such a range of data would in time become a valuable recourse showing both pressure points and inefficient practices.

Confidential Safety Reports

- Whilst confidential reports are received less frequently they usually provide a specific source of more serious SMS data, the challenge in the organisation is to develop a reporting culture where people feel a responsibility to report and ownership of business issues.

Operations Control Reports

- The operations control centre is continually dealing with issues on a daily basis a simple logging procedure which allows these issues to be entered into the SMS system will provide a huge source of data.

Reports of the NAA

- Typically reports from the Competent Authority (CA) or the National Airworthiness Authority (NAA) will be submitted to the Quality Manager as discrepancy's or findings. Often these findings provide a source to drive a deeper understanding by the SMS system of causal factors.

Crew Surveys

- Targeted surveys are a very good source of data and such surveys may be generated following any precursory events or indicators.

Crew Observation (LOSA)

- Line Operational Safety Audits (LOSA) may also be used to gather data for the SMS system airlines with scheduled networks and medium to large fleets often find this a useful tool to understand problem areas.

Investigations & Hearings

- Any activity which causes competent assessors to look in detail at issues arising or to investigate occurrences can also provide a source of information which can be used to gather data to be used by the SMS system

Partner Airline Assessments

- Any activity of observation or oversight whether internal or external if formalized may be used as a source of data for the SMS

Quality Assurance Programme (Quality Audits and Reports)

- Quality Assurance has been around for some years and is very mature, whilst the nature of Quality Auditing is different from Safety Auditing, a huge amount of relevant data is collected by the quality system which can be utilized by the SMS system.

Training records (e.g. crew periodic checks, simulator checks and training, line checks, etc)

- Any opportunity to use qualified information can be used as guidance material to understand areas where under performance may be identified. It should be borne in mind that some information's need to be depersonalized before being used as data within an SMS.

Type Certificate Holder Reports

- The Type Certificate holder amasses a huge amount of data, such information should be actively sought and processed as part of the SMS activities.

SIE safety information exchange programs

- Safety Information Exchange Programs (SIE) is a useful area which can benefit organisations especially if you can pair up with an operator with a similar type of operation and equipment.

Safety Reporting

- Safety Reporting should be encouraged within the culture of the organisation, depending on the structure of the organisation the safety reporting process may be formalized with the introduction of safety reps within the different areas of the business.

Observation of Maintenance Operations

- Within EASA organisations the need to manage the Continuing Airworthiness of the aircraft usually requires technical representation during maintenance checks. Such oversight provides an opportunity to identify and document and issues of concern.

Safety Audits

- Safety audits and assessments are quite different to Quality Audits and require a different set of competencies to deliver effective safety audits.
- Delivered by experienced and competent persons can deliver meaningful data for the SMS

Safety Culture monitoring through surveys

- Any opportunity to gather data is off value and provides the possibility to monitor and manage trends, focusing surveys is an important aspect of forming the data which is desired. In particular to identify gaps between the actual and desired cultures within the organisation.

Internal safety investigations

- Just about any element or aspect of the business may be subject to a safety investigation. Changes in business operations, equipment or process and procedures for example.

- Ad-hoc questionnaires on chosen Safety Issues
- With relatively large pools of staff questionnaires can be a good source of identification for concern issues, subsequently leading to Safety related surveys and projects.

Internal safety workshops

- Holding Internal safety related workshops can act as Brainstorming sessions to identify issues of concern, plus opportunities for improvement or advancement.

Company voluntary reporting system

- A company scheme where individuals may report either anonymously or confidentially provides an opportunity to facilitate the capturing of the maximum amount of data, however the success of this is often tempered by issues relating to culture.

Ground Handling Reports

- The Ground Operations environment is a concern area because it is indirectly regulated, any opportunity to encourage the gathering of data on a continuous basis should be encouraged.

Flight and Duty Time Discretion Report

- The management of flight and duty times is a critical area in many areas of the business with Fatigue being a major pressure point. Such data obtained in this way can generate special investigations of company processes.

Flight Operations Monitoring

- General monitor of the Flight Operations process provides an opportunity to gather data concerning issues which can provide additional data for the SMS.

Accident reports

- All accident reports should be fully investigated to understand root cause effects and to ensure the full range of causal factors are documented within the SMS

Assessment of Subcontractors

- Within EASA Operations it is the responsibility of the operator to provide appropriate oversight of any subcontractor services provider. It should be remembered that the strength of the SMS is only as good as the effectiveness of its weakest part.

Feedback from Human Factor training courses

- Any opportunity to bring people together provides a potential source of information for the SMS some trainings which promote a full and frank exchange often provide a rich source of data for the SMS system

Next Steps

Are you looking for SMS training, consultancy, implementation workshop or training in analysis and mitigation strategies. Please contact Sofema Aviation Services provides a range of courses covering all elements of Safety Management including introduction, Implementation and performing Risk assessment please visit www.sassofia.com www.sofemaonline.com or email team@sassofia.com