



The 4 pillars of aviation safety: Part 3 - Safety assurance: how aviation organisations are successfully assuring safety with SMS solutions

Executive Summary

Since 2009, the International Civil Aviation Organisation (ICAO) has required member states to make the implementation of safety management systems (SMS) that comply with ICAO standards and recommended practices (SARPs) mandatory for aviation organisations.

As put forward by ICAO, a SMS comprises four basic components, or pillars, of safety management:

1. Safety policy
2. Safety assurance
2. Safety risk management
4. Safety promotion

The third of these four pillars, safety assurance, enables aviation organisations to establish and maintain systematic processes for managing safety which assure that safety goals and objectives can be achieved, and which contribute to the continual improvement of safety and quality.

This white paper considers how aviation organisations can successfully assure safety, in all areas and at every level, by implementing an integrated compliance management solution to improve monitoring and measurement and change management, as well as to continuously improve the SMS.



Introduction

What is safety assurance?

As the core of an ICAO-compliant SMS, safety assurance incorporates systems and controls that enable aviation organisations to continuously monitor and document their safety performance. Safety assurance also includes the regular review of safety management processes, policies and procedures.

Safety assurance itself, then, can be broken down into three elements:

1. Monitoring and measurement
2. Change management
3. Continuous improvement of the SMS

How can an integrated SMS solution help to improve monitoring and measurement?

A key component of safety assurance is the implementation of processes to monitor and measure the effectiveness of the SMS. From internal and external audits of an organisation and its suppliers, to third-party audits by customers and regulators, aviation organisations are audited continually.

Where controls have been implemented to ensure that risk remains within acceptable levels, aviation organisations must maintain and improve systems to verify their effectiveness, in order to ensure that evaluation programmes continue to be effective and that safety can continue to be assured.

Audit management

By providing a centralised system to manage all audits, an integrated SMS solution can support the complete audit lifecycle from scheduling, planning and conducting to reporting, follow-up and conclusion. Integrated SMS solutions can enable organisations to monitor safety-related information more effectively by enabling multiple audit programmes to be integrated within a single system.

From documenting and distributing policies and procedures through to identifying opportunities for continuous improvement, an integrated SMS solution enables aviation organisations to adopt a systematic approach to managing safety, and at the same time attain a holistic viewpoint of their SMS status throughout the organisation.

CA/PA management

With an integrated solution that enables the follow-up and completion of corrective and preventive actions resulting from findings raised, management can monitor all information related to internal and external evaluation programmes at each and every stage of the audit management process.

Occurrence management

By allowing employees to raise reports on safety deficiencies, including ASRs, GORs and subsequent MORs, an integrated SMS solution can support an effective reporting culture in which investigations can be managed systematically and holistically. With all reports available through a secure web client, integrated solutions enable safety reports to be raised by anyone with access to the corporate portal.

Analysis and improvement

As well as being able to ensure that SMS policies and procedures meet and exceed safety requirements through regular internal and external evaluation, an integrated SMS solution enables organisations to analyse information related to aviation safety in order to identify root causes.

With the ability to carry out detailed analysis of all audits, incidents, occurrences and audit findings throughout the organisation, such solutions can enable the analysis of root cause trends to enable the identification of improvement opportunities, to reduce overhead costs and to reduce exposure to risk.

Workload management

An integrated SMS solution can also provide a systematic and holistic view of the SMS status in every area and at every level. Being able to demonstrate regulatory compliance on demand in this way also means that completed, outstanding and overdue SMS activities and actions throughout the organisation can be tracked and continually monitored.

How can an integrated SMS solution help to improve change management?

Organisations must be able to identify changes within them which impact processes, policies, and procedures in order to establish and maintain systematic processes by which safety can be assured. An integrated solution can improve the management of processes, policies and procedures by ensuring that every person can contribute to the change management process.

Document management

An integrated SMS solution enables organisations to give appropriate personnel on-demand access to relevant, accurate information at the point of need. With an integrated solution that incorporates a comprehensive document management system, organisations can ensure that SMS policies and procedures are up-to-date and directly available.

Change management

As well as a centralised system to manage documents, an integrated solution can also offer automated change control management, including the ability to notify relevant personnel of actions for which they are responsible, and to escalate outstanding approvals and acknowledgements to the appropriate person.

Raising change requests

By automating the change request process, an integrated SMS solution can enable every person to raise changes against controlled documentation at each and every stage of the document management process. This ensures that aviation organisations can encourage relevant personnel to contribute to the change management process.

Distribution of safety-related information

An integrated solution can also enhance safety assurance activities by providing a robust and scalable system for the distribution of relevant safety-related information to appropriate personnel. By enabling the notification of SMS activities and actions throughout the organisation, such solutions provide greater visibility of safety-related information and encourage greater participation in SMS activities.

Notification and escalation

An integrated SMS solution can also enhance participation with the SMS by offering point-of-need access from notifications of overdue or upcoming actions. An integrated solution can enable overdue actions to be automatically escalated, and can notify relevant personnel of upcoming actions. Conditional messaging ensures that every person can define the circumstances in which they should be notified of activities and actions.

Procedure-based training

By automatically identifying those personnel impacted by changes to safety and quality policies, an integrated solution can enable the scheduling of relevant procedure-based training. In addition, an integrated solution can enable the effective scheduling, tracking and recording of training events, activities and actions by automatically notifying appropriate personnel of upcoming safety and quality training events.

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How can an integrated SMS solution help to continuously improve the SMS?

A key component of ensuring that safety goals and objectives can be achieved is the ability to identify opportunities for continuously improving the SMS. Organisations must ensure that SMS incorporate controls to enable every person to contribute to the continuous improvement of safety and quality at every level and in every area within the organisation.

Distribution of safety-related information

An integrated SMS solution can also provide a system for the distribution of relevant safety-related information to appropriate personnel. By notifying relevant personnel of SMS activities and actions, such solutions provide greater visibility of safety-related information and encourage participation in SMS activities.

CA/PA management

By enabling organisations to quickly and easily report hazards and non-compliances, an integrated solution reduces time and effort spent managing corrective and preventive actions and accelerate time to completion. Such solutions help organisations to prevent repeat occurrences of problems by notifying appropriate personnel of outstanding and overdue actions for which they are responsible.

Analysis and improvement

With detailed causal analysis of all occurrences, incidents and audit findings, an integrated SMS solution enhances the identification of opportunities for improvement throughout the organisation. An integrated solution based on the PLAN-DO-CHECK-ACT cycle helps to continually improve safety and quality by promoting a corporate culture that develops and encourages adherence to best practices.



What is an integrated safety management system (SMS) solution?

An integrated safety management system (SMS) solution offers software and services that provide a framework for a systematic and holistic approach to SMS management. By improving monitoring and measurement and change management, as well as continuously improving the SMS, an integrated SMS solution enables aviation organisations to effectively assure safety.

Such solutions also provide a centralised system to implement and manage SMS processes. By supporting the management of SMS processes, an integrated solution enables aviation organisations to extend and support SMS processes in every area and at every level of the organisation.

From documenting and distributing policies and procedures through to identifying opportunities for continuous improvement, an integrated SMS solution enables aviation organisations to adopt a systematic approach to managing safety, and at the same time attain a holistic viewpoint of their SMS status throughout the organisation.

With an integrated solution that enables the efficient and effective management of safety assurance, aviation organisations can:

- improve monitoring and measurement
- improve change management
- continuously improve the SMS

In improving monitoring and measurement and change management and in continuously improving the SMS, an integrated SMS solution can help to establish and maintain systematic processes for managing safety which assure that safety goals and objectives can be achieved, and which contribute to the continual improvement of safety and quality.

How can an integrated SMS solution help to implement a framework for safety assurance?

Q-Pulse from Gael Ltd is an integrated SMS solution which provides aviation organisations with an interconnected framework that supports Safety and Quality management processes.

By integrating quality and safety management systems with Q-Pulse, aviation organisations can achieve a systematic approach to managing Safety and Quality, and at the same time attain a holistic viewpoint of their QMS and SMS status in all areas and at all levels of the organisation.

Based on the PLAN-DO-CHECK-ACT cycle, Q-Pulse applies a systematic and holistic approach to QMS and SMS management, from documenting and distributing policies and procedures through to identifying opportunities for continual improvement.

The Q-Pulse Integrated Safety & Quality Framework



1. Document and distribute

Q-Pulse enables the documentation and distribution of SMS and QMS policies and procedures, all with watertight Document Control.

2. Promote corporate culture

Q-Pulse enables the promotion of a corporate Safety and Quality culture through a robust and scalable framework for training and development.

3. Assure regulatory compliance

Q-Pulse enables you to ensure your regulatory compliance across the organisation through regular internal and external audit.

4. Manage incident investigations

Q-Pulse enables the promotion of a corporate reporting culture, with the easy creation of safety reports and subsequent investigations to be performed in a structured, methodical manner.

5. Analyse and improve

Q-Pulse enables detailed analysis of incidents, occurrences and audit findings with its powerful graphical analysis functionality, resulting in the highlighting of opportunities for continuous Quality and Safety improvement.

Safety assurance – the Q-Pulse advantage

With SMS an international regulatory requirement from 2009, assuring safety effectively at all levels and in all areas of the organisation is of paramount importance for aviation organisations. The effective assurance of safety is vital to successfully implementing SMS that comply with ICAO SARPs and contribute to the continual improvement of safety and quality throughout the organisation.

With an integrated SMS solution developed around the four components of safety management, organisations can put into place a robust and scalable framework that supports the effective assurance of safety and the implementation of ICAO-compliant SMS at all levels and in all areas.

Based on the PLAN-DO-CHECK-ACT cycle, Q-Pulse from Gael Ltd is the only commercially available solution that provides a centralised and standardised framework for maintaining and improving safety and quality management in every area and at every level of your organisation.

From documenting and distributing policies and procedures to continually identifying opportunities for improvement, Q-Pulse is your solution for improving monitoring and measurement and change management, as well as continuously improving the SMS in compliance with ICAO requirements.

With Q-Pulse, operators can adopt a systematic and holistic approach to managing safety and quality that meets the requirements of multiple regulations, from ICAO SMS, ISAGO and IOSA, to FAR-OPS, FAR-FCL and FAR-145, through to EU-OPS, JAR-FCL and EASA-145.

The 4 pillars of aviation safety: Part 2 - How are aviation organisations successfully managing risk with SMS solutions?

Contact us now at aviation@gaelquality.com to find out how you can effectively establish safety policy throughout your organisation with Q-Pulse.



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