UK Civil Aviation Authority

Innovation Hub

Safety Management Systems (SMS) for Innovators

Overview

The purpose of this guide is to provide an introduction to the Safety Management System (SMS) and describe how it can help you as an innovator.

A Safety Management System (SMS) is a systematic and proactive approach to managing safety risks related to your operation. Page 3 provides some further background.

There are many benefits to applying SMS principles, and embedding an SMS into your operation, as outlined on Page 4.

There is already plenty of existing guidance available from the CAA for establishing your own Safety Management System and Page 5 sets you off on the right steps.

Safety and quality management systems are important for making sure that your business and operations are safe and efficient. But there are some key differences, described on Page 6, between an SMS and a QMS.

Finally, this document provides links on Page 7 to the relevant guidance to help you with your SMS.

What is a Safety Management System?

A Safety Management System (SMS) is a systematic and proactive approach to managing safety risks related to your operation.

Risk management activities are at the heart of SMS, including identifying safety issues, assessing the risks and then determining how to mitigate them. It is supported by a strong assurance function that monitors compliance and performance as well as managing changes.

To be effective, the SMS needs the right policies, processes and procedures in place. In addition to this, it is critical to have the safety leadership in place to enable the SMS to perform.

Who needs to have an SMS?

Depending on the type of organisation you are, and the approvals you require, you may or may not need to have an SMS. However, SMS includes a lot of good practice, based on high standards of aviation safety. While you may not be required to have one, it is a good idea to apply the principles. Adopting these now will also be helpful in terms of being ready for future regulatory approvals or permissions.

The organisations who are required to have an SMS are:

- Operators, including training organisations
- Air Navigation Service Providers (ANSP)
- Aerodromes
- Continuing Airworthiness Management Organisations (CAMO)
- Light UAS operator certificate holders

What are the benefits of an SMS?

Culture

Instilling a strong safety culture within your organisation; actively disseminating safety information; empowering your staff to learn and adapt to changes, and report safety concerns or unintentional errors without fear of repercussion.

Appointment of People

Identifying the roles and responsibilities required for safe conduct of your operations.

Ensuring appropriately trained and qualified people carry out those roles and responsibilities.

Risk & Hazard Identification

Systematically identifying safety risks and hazards.

Determining and implementing appropriate mitigations and assuring their effectiveness.

Management of Change

Developing a robust method for implementing change (i.e. introduction of a new aircraft type or operation), ensuring key stakeholders are informed, and any secondary effects are suitably managed.

Emergency Response Plan

Developing an appropriate emergency response plan, covering the identified risks, including procedures, key personnel, and responsibilities.

Benefits to Innovators

Enhanced safety performance and ability to manage risks.

Improved morale and engagement for staff who are empowered to report safety concerns.

Enhanced reputation.

Improved efficiency in terms of resource and financial allocation.

How can I implement an SMS?

There is already plenty of existing guidance available from the CAA for establishing your own Safety Management System.

For many organisations there will be some elements of an SMS already in place, for example risk assessments or safety cases, so carrying out a **gap analysis** is the first step. The CAA SMS evaluation tool can be used to assist with this gap analysis.

The next step is to create an **implementation plan** which details the identified gaps, and the actions to be taken (what, when and by whom), to implement an SMS. The plan should be developed to allow prioritising of the different elements over time.

Why have an SMS?

Whether or not you are required to have an SMS, either for commercial operations or for tests and trials, it is recommended that the principles of an SMS are considered.

There are many benefits to this approach, including more informed decision-making, improvements in safety, better allocation of resources, financial efficiency and savings, improvement in safety culture, and demonstrating your due-diligence and commitment to safety.

Get Familiar with the Guidance

The CAA have already produced some excellent guidance materials to help you establish your SMS. Start with CAP1059 “Safety Management Systems: Guidance for Small, Non-Complex Organisations”

Gap Analysis

The CAA’s Gap Analysis Tool asks you a series of questions that helps to identify the gaps and start your process towards building your SMS.

Implementation Plan

After your Gap Analysis, this gives you a structured approach for planning how you will introduce the necessary SMS elements.

How does an SMS compare to a QMS?

Safety and quality management systems are important for making sure that your business and operations are safe and efficient. But there are some key differences between an SMS and a QMS.

An SMS addresses the safety aspects of the organisation while a QMS focuses on services and products.

However both can impact on safety, where a QMS is interested in conformance (i.e. to regulations) where an SMS focuses on hazards.

An SMS doesn't replace a QMS. Together they enhance safety and are complementary tools. An effective SMS will apply quality management principles.

Safety Management System	Quality Management System
Proactive	Reactive
Safety focussed	Process focussed
Hazard identification and risk monitoring	Overview of all performance metrics
Measuring risk mitigation effectiveness	Determining resource allocation
Performance based	Compliance based

- Both the SMS and QMS are focused on the goal of providing safe and reliable products and services.
- Data can be shared between the SMS and QMS (e.g. data generated through the QMS may identify possible safety risks, and safety data may help the QMS target safety critical processes).
- An SMS is supported and informed by QMS processes such as auditing, inspection, investigation, root-cause/causal analysis, process design, statistical trending analysis, preventive measures, documentation, and training.
- An SMS may anticipate safety issues that exist despite the organisation's compliance with standards and specifications.

Quality Management System

A Quality Management System (QMS) is a collection of business processes focused on consistently meeting customer requirements and enhancing their satisfaction. It is aligned with an organization's purpose and strategic direction.

– ISO 9001:2015

Further Information

Further Information

The following provides some relevant information that may be helpful:

CAA SMS Strategy
https://www.caa.co.uk/Safety-initiatives-and-resources/Working-with-industry/Safety-management-systems/Safety-management-systems-strategy/

CAP 795 Safety Management Systems - Guidance to Organisations
https://publicapps.caa.co.uk/CAP795

CAP 1059 Safety Management Systems - Guidance for small, non complex organisations
https://publicapps.caa.co.uk/CAP1059

Safety Management International Collaboration Group
https://www.skybrary.aero/index.php/Safety_Management_International_Collaboration_Group_(SM_ICG)

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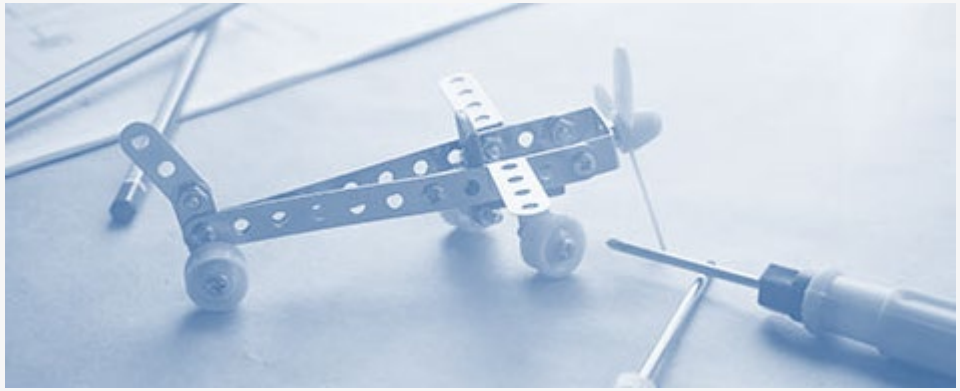

About the Innovation Hub

For technology innovators across the world developing the aviation solutions of tomorrow, the CAA is an important partner, advisor and enabler to help them bring their innovations to the market.

Our job is to help technology innovators working on drones, air taxis and other new aviation concepts, take their ideas to market in a safe, secure and sustainable way.

To do that we have to work collaboratively so that we can get regulation moving ahead of time to support their innovations, instead of holding them back.

Visit the CAA Innovation Gateway – caa.co.uk/innovation