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[SMS / Aviation Safety Management System](#)

Definition of Aviation Safety Management System

A **safety management system in aviation** commonly refers to a set of processes and tools to formally manage a structured safety program. Safety management in aviation is not a new, 21st century topic. Even before man started flying, there were safety management programs in other industries.

Most aviation service providers have processes in place to mitigate risk to an acceptable level. In fact, every operator has a "safety management system" in place; however, when we refer to an aviation safety management system, commonly called SMS, we refer to the formal processes and methodologies to manage safety.

Aviation SMS programs today are based on ICAO standards or recommendations. Guidelines for managing safety programs at a state level and the individual operator level are found in the "SMS Bible," ICAO Document 9859. Safety professionals will simply say "9859" or "doc 9859" to refer to these guidelines. As of December 2106, there have been three version and a fourth version of 9859 is being drafted.

Doc 9859 is surprisingly easy to read. Don't be alarmed at the size. Use 9859 as your first reference to any question relating to aviation safety management systems. A recommended strategy to using 9859 is to first browse through the pages quickly to get an understanding of the scope and breadth of these guidelines. You will be surprised at how many free resources are available in these publications, such as:

- Gap analysis checklists that we break out and distribute; and
- SMS implementation plans.

Related Articles on Aviation SMS Gap Analysis

- [What is a Gap Analysis in Aviation SMS?](#)
- [SMS First Steps - Gap Analysis](#)
- [4 Best Aviation SMS Gap Analysis Strategies for SMS Implementations](#)



System Approach to Aviation Safety Management?

As defined above, an aviation SMS program is a set of processes and tools to manage aviation safety. These processes are outlined in Document 9859 and organized into four components:

- Safety Policy;
- Safety Risk Management;
- Safety Assurance; and
- Safety Promotion.

These four components are commonly called the four pillars in aviation SMS programs. In each component or pillar are between two to five elements to further organize the system. If your SMS program lacks any of these elements, you do not have a compliant SMS program. Each element has general requirements and best practices. To learn more about these elements and the best practices, see below.

Related Articles on Four Pillars of Aviation SMS

- [What Are the 4 Pillars of SMS?](#)
- [History of Aviation SMS and Four Pillars - with Free Tools](#)
- [Which of the Four Pillars of SMS Carries the Most Weight?](#)

Requirements & Best Practices for a Safety Management System

Safety Policy

- Management commitment & responsibility
- Safety Accountabilities
- Appointment of key safety personnel
- Coordination of emergency response planning
- SMS documentation

Safety Risk Management

- Hazard identification
- Risk assessment & mitigation

Safety Assurance

- Safety performance monitoring & measurement
- Management of change
- Continuous improvement of the SMS

Safety Promotion

- Training & education
- Safety communication



SMS-Pro Risk Management Solution Short Introduction



The slide features the SMS PRO logo at the top, which includes the text 'SMS PRO' in red and 'SMS MANAGEMENT TOOL' in black, with a green checkmark and the tagline 'safety quality quality'. Below the logo, the main title 'AVIATION RISK MANAGEMENT Solution' is displayed in large, bold, black letters. A small white square is positioned over the letter 'I' in 'AVIATION'. At the bottom of the slide, the text 'Web-based Aviation Risk Management System' is written in a smaller, blue font.

SMS-Pro Safety Quality Assurance Solution Short Introduction



The slide features the SMS PRO logo at the top, which includes the text 'SMS PRO' in red and 'SMS MANAGEMENT TOOL' in black, with a green checkmark and the tagline 'safety quality quality'. Below the logo, the main title 'SAFETY QUALITY ASSURANCE Solution' is displayed in large, bold, black letters. A small white square is positioned over the letter 'I' in 'SAFETY'. At the bottom of the slide, the text 'Web-based Aviation Safety-Quality System' is written in a smaller, blue font.

Tools to Manage Safety in Aviation Industry

As defined above, a safety management system is a set of processes and tools to manage safety and mitigate risk to an acceptable level. The most popular tool is Document 9859. Other tools to manage safety in the aviation industry include:

- Safety training videos;
- Risk management methodologies;
- Document management software;
- Learning management systems;
- Training article libraries; and
- Survey tools.

Every operator has certain elements of a safety management system to manage operational risks. What most lack is the structure or processes of a formal system that is based on best practices. Most operators a "system" in place to manage operational activities, such as:

- Asset management software;
- Maintenance management software;
- Crew scheduling software; and
- Accounting software.

A problem exists when an operator tries to manage individual elements in different existing systems. They soon learn that they have a data management nightmare because their SMS is being managed in six different systems. When operators have more than 40 employees or in companies with high employee turnover, an SMS database is required to manage the many SMS documentation requirements. Spreadsheets have been tried MANY times over the past twelve years with very poor results.

Related Aviation SMS Database Articles

- [What Is an Aviation Safety Database](#)
- [5 Most Important Things to Know Before Buying Aviation SMS Database](#)
- [Pros and Cons of In-House SMS Database and Off-the-Shelf-Solutions \(COTS\)](#)

Safety Management System Unique to Operators

There is a tendency for operators to use existing system to initially manage SMS requirements. Based on empirical evidence, companies will use their existing tools to manage safety requirements for approximately four to six years. They soon learn that their in-house approach requires more:

- time;
- energy; and
- money

to effectively manage all the SMS elements. Between years four and six of their SMS implementation, operators look for a safety management software system to address the requirements.

Not all operators need the same safety management system. Their needs vary depending on multiple factors, including:

- Size of company;

- Goals and objectives relating to SMS;
- Complexity of company operations; and
- Maturity of SMS program (which phase they are in).

Learn which [aviation safety management system](#) suits your company's goals and objectives.



SMS Pillars

[Safety Policy](#)
[Safety Risk Management](#)
[Safety Assurance](#)
[Safety Promotion](#)
[Free Safety Videos](#)
[Safety Mangement Software](#)

Company

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