

SMS Maturity Assessment Evaluation Tool

For Design , Manufacturing and Maintenance organisations

Sophie Rougé

Head of Safety Governance & Corporate SMS
Airbus

Presentation to SMICG
June, 2023
Helsinki

International SMS Industry standard SM-0001 rev A

SM-0001

Issue A - September 17th, 2018

International Industry Standard

**IMPLEMENTING A SAFETY MANAGEMENT SYSTEM
IN
DESIGN, MANUFACTURING AND MAINTENANCE ORGANIZATIONS**



Publishers:

AIA **AIA-B** **AIAC** **ASD** **AGMA**

Copyright 2018: Refer to page 2

SM-0001 issue A **page 1**
Copyright 2018. Aerospace Industries Association of America (AIA), Aerospace Industries Association of Brazil (AIA-B), Aerospace Industries Association of Canada (AIA-C), AeroSpace and Defence Association Industries of Europe (ASD), General Aviation Manufacturers Association (GAMA)

SM-0001 issue A **page 4**
Copyright 2018. Aerospace Industries Association of America (AIA), Aerospace Industries Association of Brazil (AIA-B), Aerospace Industries Association of Canada (AIA-C), AeroSpace and Defence Association Industries of Europe (ASD), General Aviation Manufacturers Association (GAMA)

SM-0001	Issue A - September 17 th , 2018
1. INTRODUCTION	5
2. SCOPE OF THE STANDARD.....	7
3. SUPPORTING REFERENCE DOCUMENTATION.....	8
4. TERMS AND DEFINITIONS.....	9
5. APPLICABLE REQUIREMENTS.....	14
6. UNDERSTANDING AND MEANS OF COMPLIANCE WITH SMS REQUIREMENTS	15
6.1 Safety Policy and Objectives	17
6.1.1 Management commitment.....	17
6.1.2 Safety Accountability and Responsibilities.....	21
6.1.3 Appointment of Key Safety Personnel	22
6.1.4 Coordination of Emergency Response Planning	23
6.1.5 SMS Documentation	24
6.2 Safety Risk Management	25
6.2.1 Hazard Identification.....	26
6.2.2 Safety Risk Assessment and Mitigation.....	27
6.3 Safety Assurance	30
6.3.1 Safety Performance Monitoring and Measurement.....	32
6.3.2 The Management of Change	37
6.3.3 Continuous Improvement of the SMS	39
6.4 Safety Promotion	40
6.4.1 Training and Education	40
6.4.2 Safety Communication	41
7. INTERFACES BETWEEN ORGANIZATIONS	43
7.1 Interface principles	43
7.2 Interface documentation	45
7.3 Corporate SMS approach	45
8. SMS IMPLEMENTATION PLAN	47
Appendix 1 - Best practices for Safety Risk Management (SRM)	52
Appendix 2 - Example of SMS Maturity Assessment Method	59
Appendix 3 - Example of SMS Manual/Documentation	84
Appendix 4 - Compliance with FAA 14 CFR Part 5	89
Appendix 5 - Correlation between ICAO Annex 19 app. 2, SMS Standard, ICAO 9100:2016 & ICAO 9110:2016	90
Appendix 6 - Acronyms	93

SM-0001
Issue A - September 17th, 2018

Objective

Enable the aviation industry to implement a Safety Management System (SMS) consistent with the International Civil Aviation Organization's (ICAO) Annex 19

International SMS Industry standard rev A to C

Current applicable Rev. B

- Recognized by EASA, through AMC to Part 21, as a stand alone means of compliance with SMS req. for Design and Manufacturing organisations
- Accepted by FAA, TCCA, ANAC as a basis for a voluntarily implemented SMS program in Design and Manufacturing Organizations (also in Maintenance organisations for FAA).
- Used by a number of organisations, in particular those contributing to SM-0001 working group.

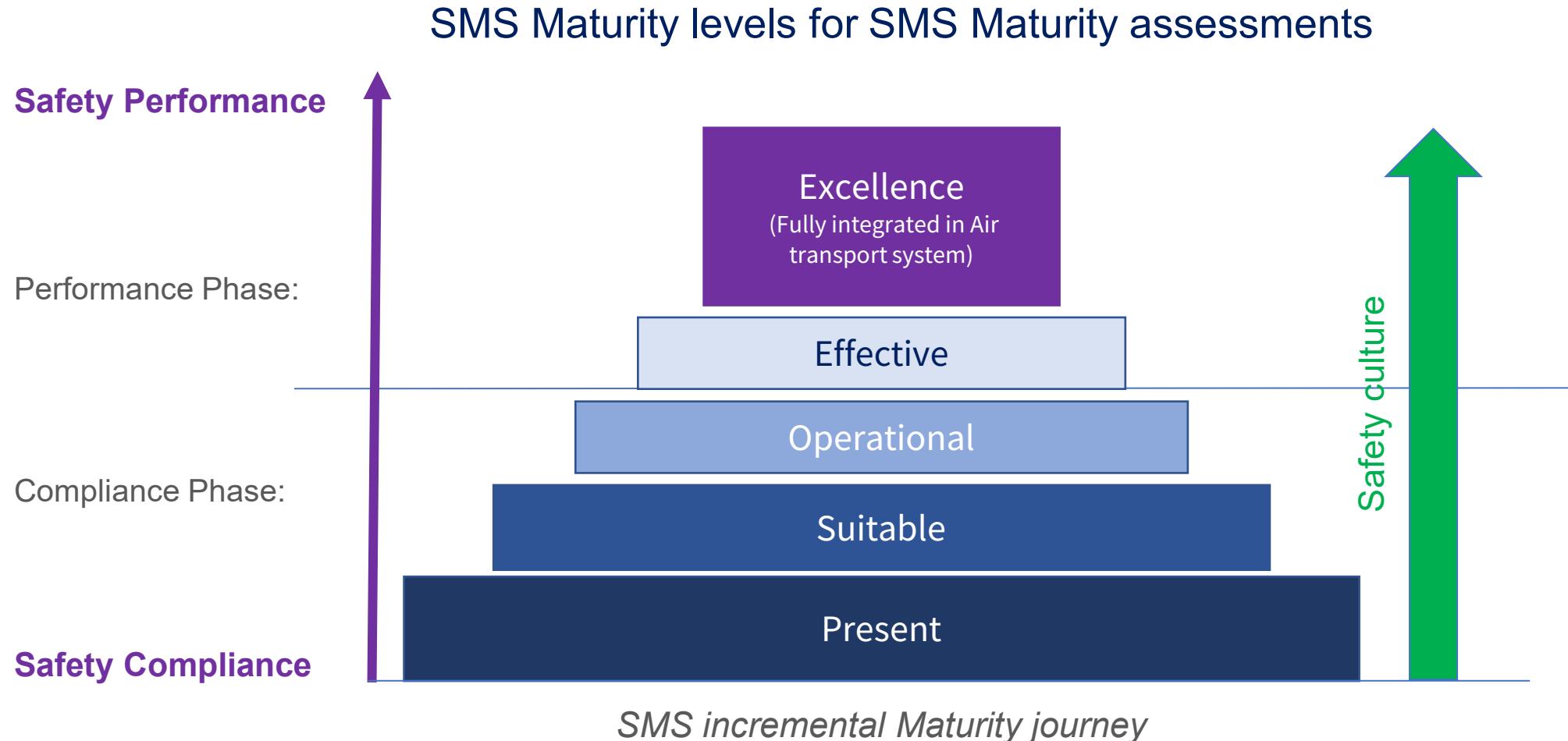
Ongoing Rev. C

Kick off: 12 Sept. 2022

Publishing: Q3/2023 or Q1/2024 depending on way forward with SMS in maintenance organisations topic.

SMS Maturity Assessment

International SMS Industry standard called SM-0001 (App2 in rev.B March 2022)



SMS Maturity Assessment

Scale of SMS incremental Maturity journey & Evaluation Tool

Safety
Performance



Safety
Compliance

Definition of Maturity levels & associated expectation for SMS Components & Elements		Safety Policy & Objectives	Safety Risk Management	Safety Assurance	Safety Promotion
5	Excellence The organisation is an industry leader and embraces and shares its best practices with key external stakeholders	Accountable and Senior management are fully involved in the SMS and managing safety policy and objective processes set forth by the organisation to proactively manage risk. The organisation drives continuous improvement of SMS through analytics and metrics. Employees across the organization are engaged with the policy and objectives as is evidenced in day to day operations. Key external stakeholders are clearly engaged with the SMS	The organisation is continuously identifying hazards (Operational, Technical, Human and Organisational) and is actively managing them; this is visible in safety performance. Data sources, hazard identification methods, risk analysis and risk assessment processes are continuously improved. Output from SRM is used to actively drive continuous improvement of the organisation' SMS.	The safety performance of the organization (including organizational factors) is being measured and the SPIs are being continuously monitored and analysed for trends at Accountable executive and Senior management level. Continuous improvement of the SMS is occurring and evident in performance monitoring.	SMS training programme is continuously improved and actively encouraged at Accountable and Senior management levels. Just culture and safety communication are part of day to day business
4	Effective The SMS is working in an effective way and is striving for continuous improvement.	Accountable and Senior management are clearly involved in the SMS and proactively managing safety policy and objective processes set forth by the organisation to proactively manage risk. Employees across the organization are engaged with the policy and objectives as is evidenced in day to day operations. Key external stakeholders have a clear understanding of their role and contribution to the SMS	The organisation identifies key hazards (Operational, Technical, Human and Organisational), both internal and external, and is actively managing them. Safety hazards and safety risks are documented and accessible as appropriate to the organisation. There is effective interaction between SRM and SA. Safety Risk Management is proactive.	The safety performance of the organization is being measured and trends are proactively acted upon by Senior Leadership including the Accountable Executive.	SMS training is routinely reviewed and improved to take into consideration feedback from different sources. Safety communication is assessed to determine how it is being used and understood and to improve it where appropriate.
3	Operating The systems and processes of the SMS are operating.	The safety policy and objectives are assessed on a regular basis for applicability and relevance to the current organisational environment. There is evidence that the organization's fully functioning processes are in use. Promotion of safety objectives and processes by accountable and senior management levels	Hazards are identified and documented based on safety data from events that have occurred or in anticipation of potential events that could lead to an unacceptable risk. Safety risk analysis and safety risk assessments are being routinely conducted. Safety risks are being mitigated and monitored to ensure the adequacy of implemented controls.	The safety performance of the organization is being measured and the SPIs are being continuously monitored and analysed for trends at Senior management level. Internal audits occurring on key SMS processes, including relevant interfacing stakeholders.	Training is reviewed and maintained as appropriate to the organisation' SMS needs. Safety relevant information is being identified and communicated internally and externally, as appropriate.
2	Suitable Features suitable to size, nature and complexity of the organisation and risks	There are policies, processes, organisation' accountability and responsibilities, ready to operate with identified ressources	There is a standard safety risk management process that is applied to areas of the organization that could adversely impact product safety, as defined in the System Description. There is an anonymous and confidential employee reporting system to capture safety concerns	There is a documented process to assess whether the appropriate risk controls are applied and effective. The KPI/SPI are defined, and the method and triggers for change management are identified.	There is a process to communicate safety relevant information and a SMS training programme in place
1	Present The SMS is documented and defined.	On top of compliance with airworthiness rules + Quality standards, there are policies (Safety + Just culture, description of organisation' accountability and responsibilities for SMS, processes documented that detail how the SMS will operate.	On top of compliance with airworthiness rules + Quality standards. There is a standard process that defines how reactive and proactive hazard identification is conducted, how safety risk analysis and safety risk assessments are completed, and how to determine the need for and adequacy of safety risk controls. The System Description is documented. There is a confidential employee reporting system to capture safety concerns	On top of compliance with airworthiness rules + Quality standards. The relevant organization is defined and key SMS processes for monitoring are defined, including a documented process to assess whether the appropriate risk controls are applied and effective.	On top of compliance with airworthiness rules + Quality standards, Safety critical information, and Just culture principles are communicated throughout the organisation. There is a training programme for SMS defined.

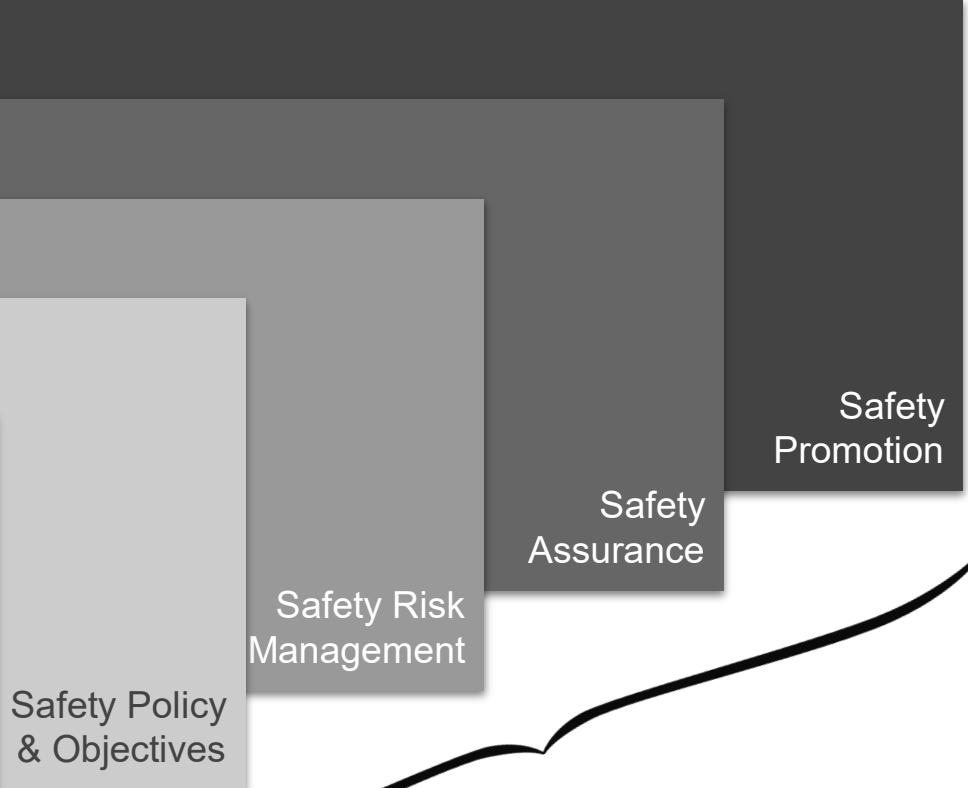
SMS Maturity Assessment

Scale of SMS incremental Maturity journey & Evaluation Tool

Definition of Maturity levels & associated expectation for SMS Components & Elements		Safety Policy & Objectives	Safety Risk Management	Safety Assurance	Safety Promotion
5	Excellence The organization is an industry leader and embraces and shares its best practices with key external stakeholders	Accountable and Senior management are fully involved in the SMS and managing safety policy and objective processes are set forth by the organization to proactively manage risk. The organization drives continuous improvement of SMS through analytics and metrics. Employees across the organization are engaged with the policy and objectives as is evidenced in day to day operations. Key external stakeholders are clearly engaged with the SMS	The organisation is continuously identifying hazards (Operational, Technical, Human and Organisational) and is actively managing them; this is visible in safety performance. Data sources, hazard identification methods, risk analysis and risk assessment processes are continuously improved. Output from SRM is used to actively drive continuous improvement of the organisation's SMS.	The safety performance of the organization (including organizational factors) is being measured and the SPIs are being continuously monitored and analysed for trends at Accountable executive and Senior management level. Continuous improvement of the SMS is occurring and evident in performance monitoring.	SMS training programme is continuously improved and actively encouraged at Accountable and Senior management levels. Just culture and safety communication are part of day to day business
4	Effective The SMS is working in an effective way and is striving for continuous improvement.	Accountable and Senior management are clearly involved in the SMS and proactively managing safety policy and objective processes set forth by the organization to proactively manage risk. Employees across the organization are engaged with the policy and objectives as is evidenced in day to day operations. Key external stakeholders have a clear understanding of their role and contribution to the SMS	The organisation identifies key hazards (Operational, Technical, Human and Organisational), both internal and external, and is actively managing them. Safety hazards and safety risks are documented and accessible as appropriate to the organisation. There is effective interaction between SRM and SA. Safety Risk Management is proactive.	The safety performance of the organization is being measured and trends are proactively acted upon by Senior Leadership including the Accountable Executive.	SMS training is continuously reviewed and improved to take into consideration feedback from different sources. Safety communication is assessed to determine how it is being used and understood and to improve it where appropriate.
3	Operating The systems and processes of the SMS are operating.	The safety policy and objectives are assessed on a regular basis for applicability and relevance to the current organisational environment. There is evidence that the organization's fully functioning processes are in use. Promotion of safety objectives and processes by accountable and senior management levels	Hazards are identified and documented based on safety data from events that have occurred or in anticipation of potential events that could lead to an unacceptable risk. Safety risk analysis and safety risk assessments are being routinely conducted. Safety risks are being mitigated and monitored to ensure the adequacy of implemented controls.	The safety performance of the organization is being measured and the SPIs are being continuously monitored and analysed for trends at Senior management level. Safety audits occurring on key SMS processes, including relevant interfacing stakeholders.	Training is reviewed and maintained as appropriate to the organisation's SMS needs. Safety relevant information is being identified and communicated internally and externally, as appropriate.
2	Suitable Features suitable to size, nature and complexity of the organisation and risks	There are policies, processes, organisation's accountability and responsibilities, ready to operate with identified resources	There is a standard safety risk management process that is applied to areas of the organization that could adversely impact product safety, as defined in the System Description. There is an anonymous and confidential employee reporting system to capture safety concerns	There is a documented process to assess whether the appropriate risk controls are applied and effective. The KPI/SPI are defined, and the method and triggers for change management are identified.	There is a process to communicate safety relevant information and a SMS training programme in place
1	Present The SMS is documented and defined.	On top of compliance with airworthiness rules + Quality standards, there are policies (Safety + Just culture, description of organisation's accountability and responsibilities for SMS, processes documented that detail how the SMS will operate)	On top of compliance with airworthiness rules + Quality standards, there is a standard process that defines how reactive and proactive hazard identification is conducted, how safety risk analysis and safety risk assessments are completed, and how to determine the need for and adequacy of safety risk controls. The System Description is documented. There is a confidential employee reporting system to capture safety concerns	On top of compliance with airworthiness rules + Quality standards, the relevant organization is defined and key SMS processes for monitoring are defined, including a documented process to assess whether the appropriate risk controls are applied and effective.	On top of compliance with airworthiness rules + Quality standards, Safety critical information, and Just culture principles are communicated throughout the organisation. There is a training programme for SMS defined.



Global SMS



SMA Evaluation tool in per SMS component

SMS Maturity Assessment evaluation tool

Purpose was to provide Design, Manufacturing and Maintenance organisations with a tool to:

- Support them in preparation of SMS audits by authorities (up to level 3)
- Guide them in the SMS maturity journey through
 - Self assessment
 - Or may be used for Independant SMS Maturity assessments (e.g Corporate Safety organisations)
- To keep flexibility on the how to deploy but to provide enough guidance on the final expectation
- This tool is different from safety culture evaluation/surveys

SMS Maturity Assessment evaluation tool

Benefits :

- Within multi-AO organisations, it may be a common approach to prepare compliance audits up to level 3
- Empowerments of the teams:
 - to implement SMS as expected by the SM-0001 standard
 - to increase maturity
 - to make them familiar with the SMS and performance-based approach (level 4 and 5)
- Interfaces of the organisation are addressed since level 3
→ The SMS of an organisation is addressed as a sub-system of the Aviation System

**A Performance-based oriented approach
with enough flexibility to shape needs and constraints of OEM's**



THANK YOU !

© Airbus S.A.S. 2018 – All rights reserved. Proprietary documents.

By taking delivery of this Presentation (hereafter "Presentation" or "Presentations"), you accept on behalf of your company to comply with the following guidelines: No other intellectual property rights are granted by the delivery of this Presentation than the right to read it, for the sole purpose of information. This Presentation and its content shall not be modified and its illustrations and photos shall not be reproduced without prior written consent of Airbus. This Presentation and the materials it contains shall not, in whole or in part, be sold, rented, or licensed to any third party subject to payment. This Presentation contains sensitive information that is correct at the time of the 24th Flight Safety Conference. This information involves a number of factors that could change over time, effecting the true public representation. Airbus assumes no obligation to update any information contained in this document or with respect to the information described herein. Airbus S.A.S. shall assume no liability for any damage in connection with the use of this Presentation and of the materials it contains, even if Airbus S.A.S. has been advised of the likelihood of such damages. Material for publication is obtained from multiple sources and includes selected information from the Airbus Flight Safety Confidential Reporting System, incident and accident investigation reports, system tests and flight tests. Material is also obtained from sources within the airline industry, studies and reports from government agencies and other aviation sources. All Presentations are provided for information only and are not intended to replace ICAO guidelines, standards or recommended practices, operator-mandated requirements or technical orders. The contents do not supersede any requirements mandated by the State of Registry of the Operator's aircraft or supersede or amend any Airbus type-specific AFM, AMM, FCOM, MMEL documentation or any other approved documentation. Presentations may be reprinted without permission, except where copyright source is indicated, but with acknowledgement to Airbus.

AIRBUS