



IA9100

KEY CHANGE SUMMARY

November 2023

IA9100 Key Change Summary



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IA9100

Quality Management System

Introduction (*change activity*)

IAQG - General Information



The International Aerospace Quality Group (IAQG) is a cooperative global organization of aviation, space and defense related companies.

The IAQG was created in 1998 under the umbrella of the Society of Automotive Engineers (SAE).



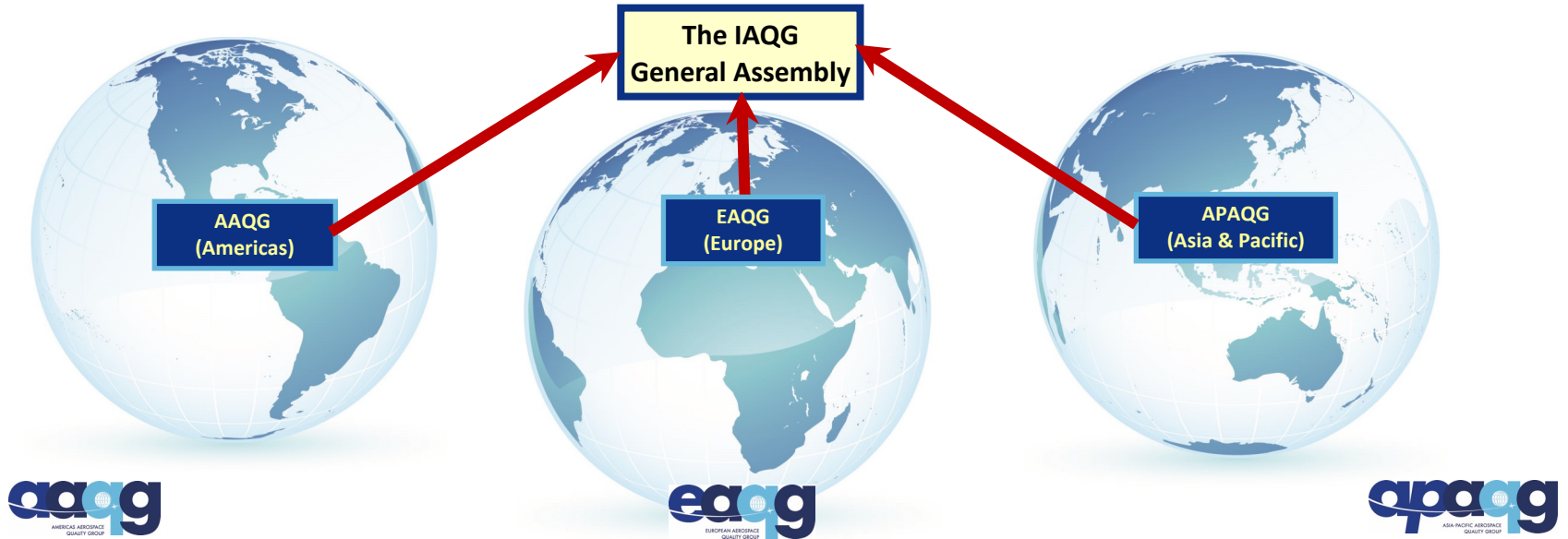
The goal of creating “harmonized”, internationally recognized aerospace standards with the goal of eliminating redundant OEM and supplier audits.



In 2013, the IAQG became an independent International not for Profit Association (INPA) under the Belgium Law based in Brussels, Belgium



The IAQG is a Global Team...



The IAQG membership is comprised of three global Sectors:

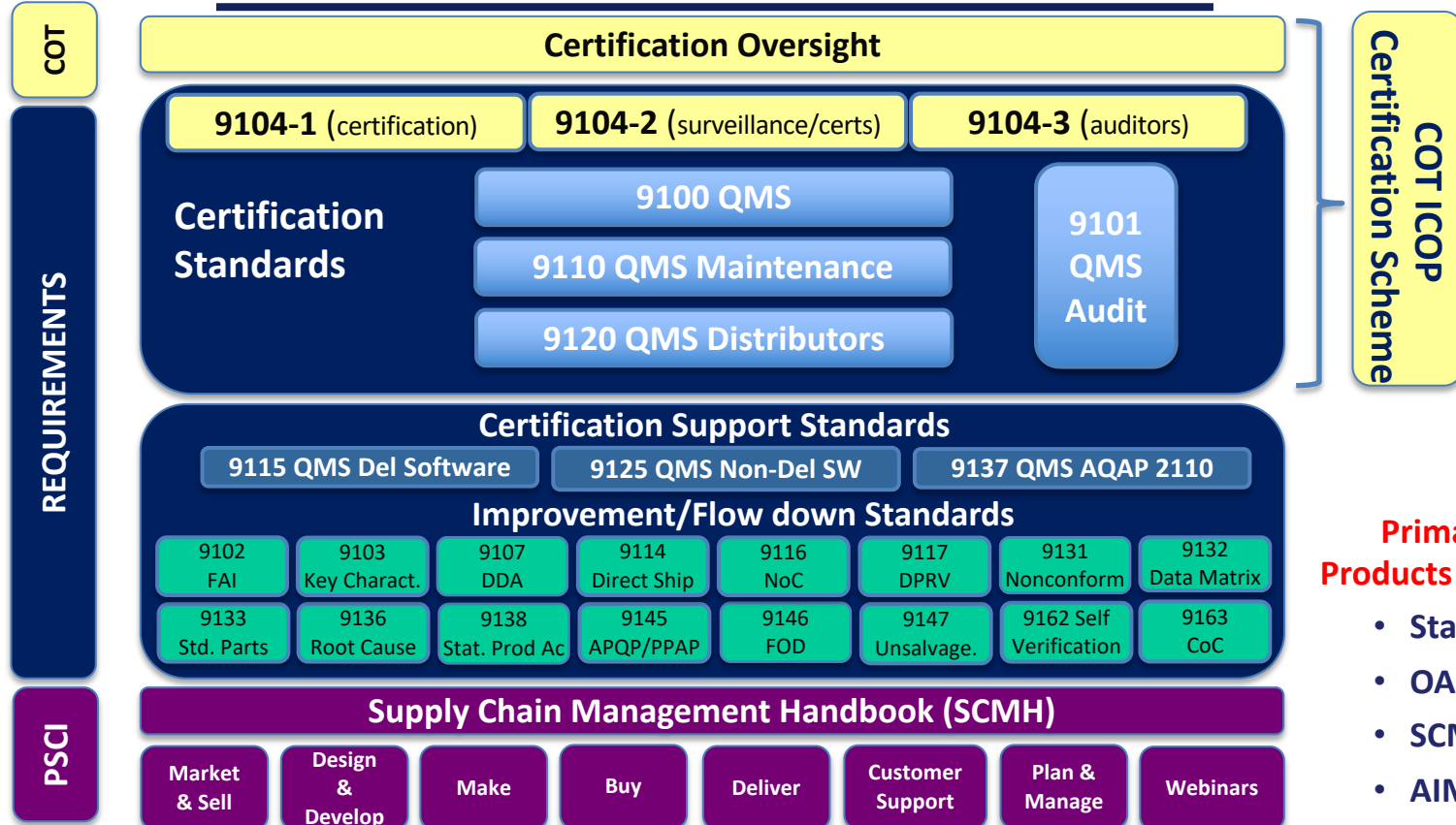
- AAQG – Americas Aerospace Quality Group– North, Central & South America;
- APAQG - Asia-Pacific Aerospace Quality Group - Asia and Oceania
- EAQG – European Aerospace Quality Group - Europe, Middle East, Russia & Africa;

IAQG Standards, Certification and Support

IAQG Products and Services



October 2023



Primary IAQG Products and Services

- Standards
- OASIS
- SCMH
- AIMM

9100 QMS Evolution – In the beginning



- **9000 New 1994-1997** – Americas 9100 (AS) developed based on Boeing D1-9000 supplier flow down quality requirements and ISO 9001 QMS
 - Major breakthrough in rival collaboration for common quality requirements
 - Expanded requirements for complex products (e.g., design, supplier management, test, build, delivery, post delivery)
- **9100 1999** – International Aerospace Quality Group (IAQG) established and a global 9100 is published with Europe (EN) concurrence
- **9100 2001** – International Aerospace Quality Group (IAQG) established and a global 9100 is published with Asia/Pacific (JIS Q) concurrence
- **9100 2004** – Structure change, no change in requirements

9100 QMS Evolution – Standing on its own



- **9100** **2009** – Accepted by DCMA for supplier flow down requirements
Significant changes in quality requirements including:
 - Special requirements, critical Items, key characteristics
 - Risk Management, configuration management, project management
 - Work transfer, expanded supplier management
- **9100** **2016** – Taking quality requirements to the next level:
 - Product safety, risk-based thinking, software/data protection
 - Product conformity and on-time delivery performance measures, more focus on proactive measures, performance, conformance
 - Awareness (e.g., contribution to product or service conformity; contribution to product safety, the importance of ethical behavior), human factors

9100 QMS Evolution – Looking to the future



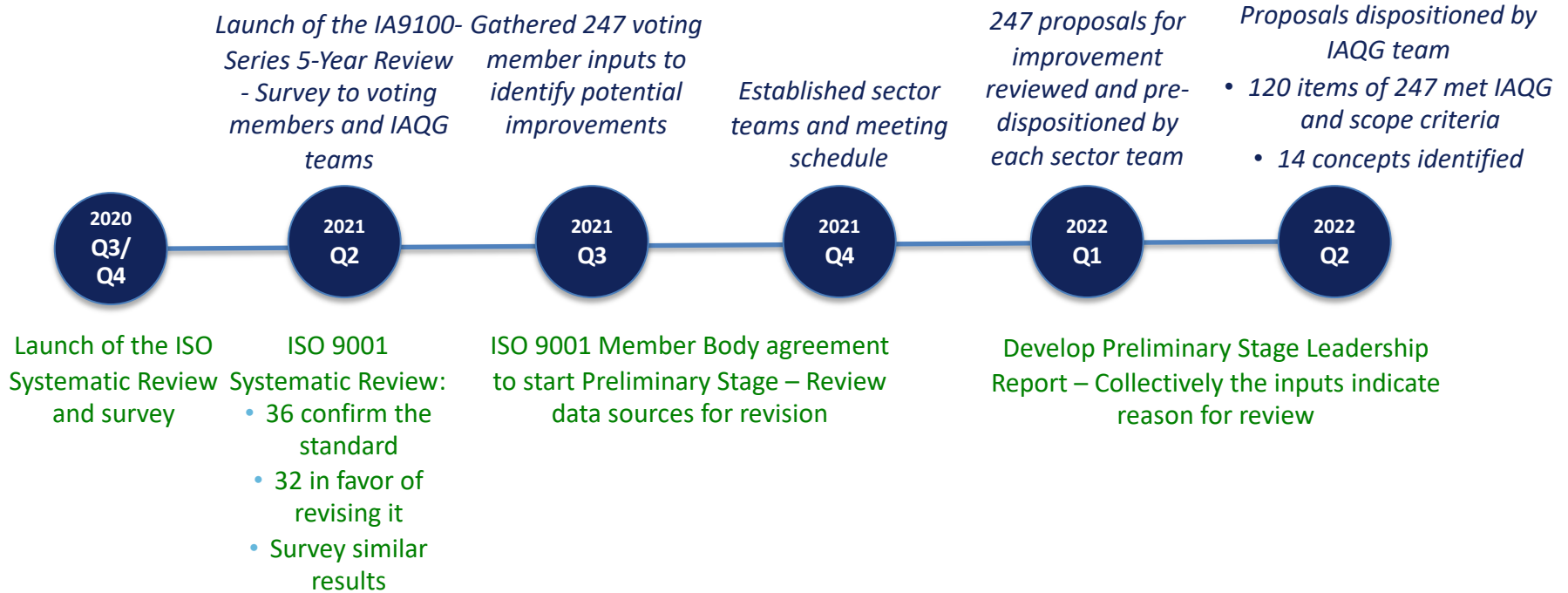
- **IA9100 2026** – Elevating quality requirements based on industry needs:
 - Expanded product safety (linkages to Safety Management System), information security (e.g., cyber) & data protection
 - Quality culture, ethics
 - Linkages to Advanced Product Quality Planning (APQP)
 - Expanding counterfeit parts
 - Sub-tier supplier controls

IA9100-Series Standards Revision Status



IAQG IA9100-Series

TC 176 ISO 9001 TG05



IA9100-Series Standards Revision Status



IAQG IA9100-Series

TC176 ISO 9001 TG05

14 concept teams established and develop proposals

2022 Q3

Start development of ISO 9001 Design Specification

Disposition of proposals by Sector and IAQG 9100 Team and start drafting revision

2022 Q4

Development of ISO 9001 Design Specification

Writing Team drafted IA9100 Working Draft, document shared with Sector and IAQG 9100 Teams

2023 Q1

Review and finalize Design Specification

Disposition comments and develop IA9100 Coordination Draft and support materials including Key Changes

2023 Q2/Q3

Leadership Briefing, June 28-July 28 revision survey,
- Start a revision!
- Leadership and Team established

Next Steps

- IA9100 Coordination Draft distributed by end of 2023
- Disposition Coordination Draft comments
- Balloting with publication of the new revision in 2026

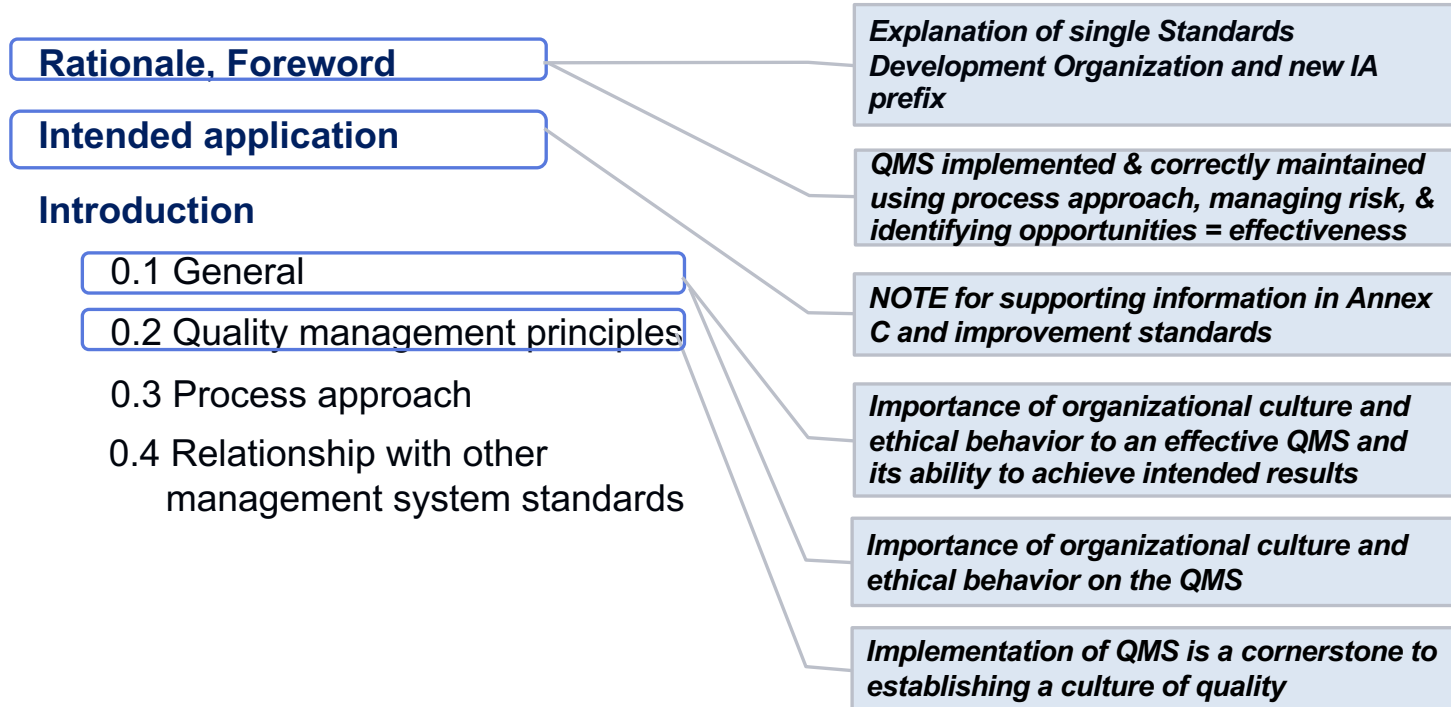


IA9100

Quality Management System

Clause-by-Clause Comparison

Clause-by-Clause Comparison



Clause-by-Clause Comparison

Requirements

1. Scope

2. Normative references

3. Terms and definitions

- *Counterfeit part*
- *Critical items*
- *Key characteristic*
- *Product safety*
- *Special requirements*

Examples of software and electronic device added to modified part.

Clause-by-Clause Comparison



4. Context of the organization

4.1 Understanding the organization and its context

4.2 Understanding the needs and expectations of interested parties

4.3 Determining the scope of the quality management system

4.4 Quality management system and its processes

NOTE to clarify the **identification of processes** is an organizational decision

Clause-by-Clause Comparison

5. Leadership

5.1 Leadership and commitment

5.2 Policy

5.3 Organizational roles,
responsibilities and authorities

*Leadership ensures goals and objectives that build a **quality culture** are consistent with policies, vision, mission, values, and context*

*Leadership promotes an **ethical work environment** with examples provided*

6. Planning

6.1 Actions to address risks and opportunities

6.2 Quality objectives and
planning to achieve them

6.3 Planning of changes

NOTE to clarify Operational Risk controls in clause 8.1.1

Clause-by-Clause Comparison

7. Support

7.1 Resources

7.1.1 General

7.1.2 People

7.1.3 Infrastructure

7.1.4 Environment for the operation of processes

7.1.5 Monitoring and measuring resources

7.1.6 Organizational knowledge

7.1.7 Information Security

7.2 Competence

7.3 Awareness

7.4 Communication

7.5 Documented information

7.5.1 General

7.5.2 Creating and updating

7.5.3 Control of documented information

Culture added an example in NOTE for human and physical factors. Examples of Culture include: quality, ethical behavior, product and personnel safety, quality of work life

Measurement System Analysis (MSA) introduced in NOTE for analysing variation.

Clarifying that lists of monitoring & measurement equipment be placed on **documented information** that could be a register.

New requirement for **information security** to safeguard the QMS to achieve intended results.

Further refined requirements when documented information is managed **electronically**

Clause-by-Clause Comparison



8. Operation

8.1 Operational planning and control

- **8.1a. Information security** (IA9100 clause 7.1.5) and data protection added to the NOTE.
- **8.1b. MSA and control plans** added to the NOTE
- **8.1k. Operations to prevent, detect and mitigate the risk of foreign objects and debris.**
- **APQP** is one method for operational planning and control

8.1.1 Operation risk management

8.1.2 Configuration management

8.1.3 Product safety

Product Safety NOTE items now requirements, including identification of hazards, safety risks, change impact from safety risk, safety process effectiveness, training, communication and awareness, and reporting events.

8.1.4 Prevention of counterfeit parts

Prevention of Counterfeit Parts NOTE items now requirements, including training, parts obsolescence monitoring program, traceability of parts, test methodologies, monitoring counterfeit parts, and segregation/containment/reporting of suspected or detected counterfeit parts

Clause-by-Clause Comparison



8. Operation

8.2 Requirements for products and services

8.2.1 Customer communication

8.2.2 Determining the requirements related to products and services

8.2.3 Review of the requirements related to products and services

8.2.4 Changes to requirements for products and services

Clause-by-Clause Comparison



8. Operation

8.3 Design and development of products and services

8.3.1 General

8.3.2 Design and development planning

Clarified dividing design and development into distinct activities.

8.3.3 Design and development inputs

8.3.4 Design and development controls

8.3.5 Design and development outputs

8.3.6 Design and development changes

Clause-by-Clause Comparison



8. Operation

8.4 Control of externally provided processes, products and services

8.4.1 General

8.4.2 Type and extent of control

Slight change to NOTE to allow remote inspection and audit of the external supplier.

8.4.3 Information for external providers

Restructured clause to increase understanding including adding direct and sub-tier control

Clause-by-Clause Comparison



8. Operation

8.5 Production and service provision

8.5.1 Control of production and service provision

8.5.2 Identification and traceability

8.5.3 Property belonging to customers or external providers

8.5.4 Preservation

8.5.5 Post-delivery activities

8.5.6 Control of changes

8.6 Release of products and services

8.7 Control of nonconforming outputs

8.5.1.d NOTE includes clarity and alignment with clause 8.5.1.1

8.5.1.3 Production Process Verification structure changed to make it clear that it is more than FAI.

Clause-by-Clause Comparison

9. Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation

9.1.1 General

9.1.2 Customer satisfaction

9.1.3 Analysis and evaluation

9.2 Internal audit

9.3 Management review

Reviewing performance indicators change from NOTE to requirement

Ensuring risks are included when establishing an audit program


10. Improvement

10.1 General

10.2 Nonconformity and corrective action

10.3 Continual improvement

NOTE: Organization requirement to plan periodic QMS maturity assessment and set improvement goals and objectives



IA9100:2024-2025

Quality Management System

Schedule and Plan

9100 Key Change Summary



Next Steps

- IA9100 Coordination Draft distributed by end of 2023
- Disposition Coordination Draft comments
- Formal Ballot and Dispositioning in 2024-2026
- 2026: publication of the new revision in alignment with ISO 9001 release





IA9100

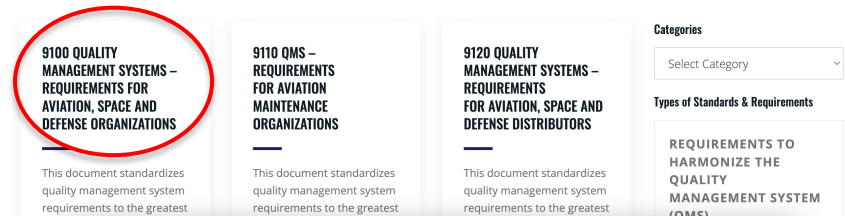
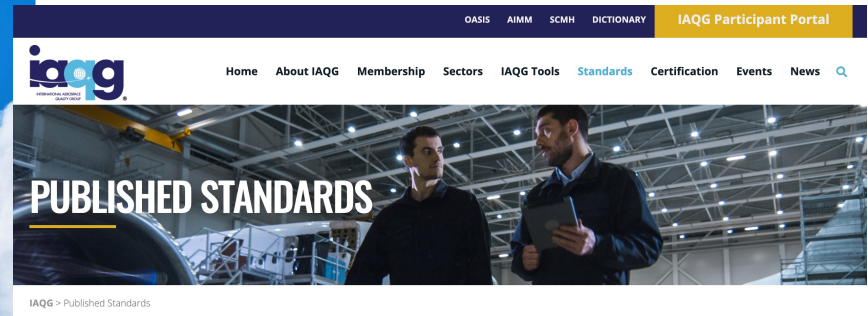
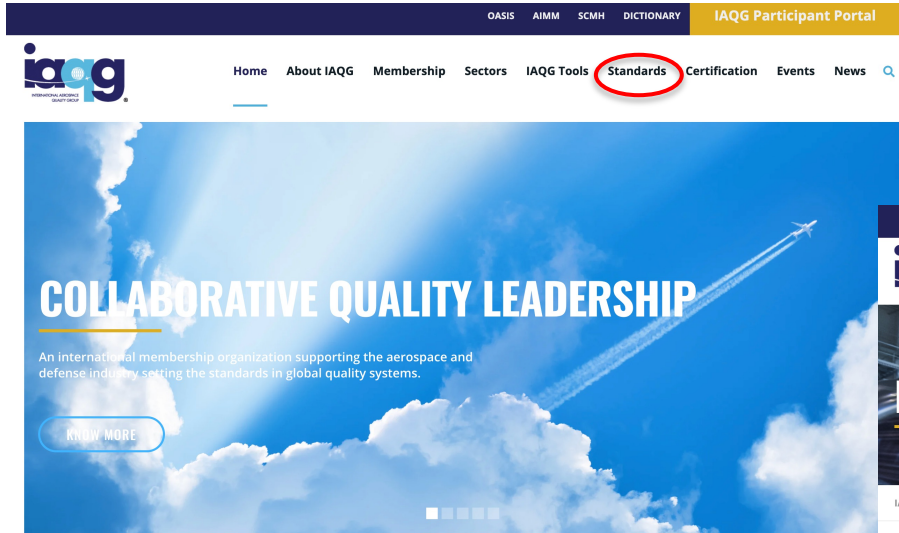
Quality Management System

Deployment Support Material – Where to find it ?

IAQG Support Material



- Support Material resides on IAQG Website www.iaqg.org





9100 QUALITY MANAGEMENT SYSTEMS – REQUIREMENTS FOR AVIATION, SPACE AND DEFENSE ORGANIZATIONS

IAQG > Standards > Requirements to Harmonize the Quality Management System (QMS) > 9100 Quality Management Systems – Requirements for Aviation, Space and Defense Organizations

This document standardizes quality management system requirements to the greatest extent possible and can be used at all levels of the supply chain by organizations around the world. Its use should result in improved quality, schedule and cost performance by the reduction or elimination of organization-unique requirements and wider application of good practice. While primarily developed for the aviation, space and defense industry, this standard can also be used in other industry sectors where a quality management system with additional requirements over an ISO 9001 system is needed.

Resources 9100:2016-Series – QMS: Aviation, Space and Defense Organizations Standards Clarifications

- 9100:2016 Series Clarification Table

9100: 2016 – QMS: Aerospace Improvement Maturity Model (AIMM)

Resources 9100:2016 – QMS: Aviation, Space and Defense Organizations Guidance Materials

- Support Materials
 - 9100:2016 FAQ
 - 9100 Gap Assessment Worksheet
 - 9100 Evaluation Guidance Material
 - Relationship between IAQG Standards and 9100:2016 Standard (Table C1)

Categories

Select Category

Types of Standards & Requirements

REQUIREMENTS TO HARMONIZE THE QUALITY MANAGEMENT SYSTEM (QMS)

REQUIREMENTS TO ASSES AND CERTIFY QMS

REQUIREMENTS AND GUIDANCE TO IMPROVE PRODUCT INTEGRITY

- Correlation Materials
 - Correlation matrices between 9100:2009 and 9100:2016
 - Matrix of 9100:2009 mapped against the 9100:2016
 - 9100:2016 vs EASA/FAA Part-21 Generic Reference Guide
 - Correlation of 9100:2016 mapped against EASA Commission Regulation (EU) 748/2012 Part-21
 - Correlation of 9100:2016 mapped against FAA Part-21

Presentations

- 9100:2016 Executive Overview Presentation
- 9100:2016 Overview Presentation
- 9100:2016 Overview Presentation Recording

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- 2019 February ASQ Quality Progress: We Have Liftoff
- 2019 May ASQ Quality Progress: The Complete Package
- 2019 December ASQ Quality Progress: Reaching New Heights
- 2020 March ASQ Quality Progress: Fundamental to Success
- 2020 June ASQ Quality Progress: An Essential Ingredient
- 2020 September ASQ Quality Progress: Let the Preparation Begin
- 2020 December ASQ Quality Progress: Does It Apply?
- 2021 March ASQ Quality Progress: The Next Level of Success
- 2021 October ASQ Quality Progress: Confirm or Revise?
- 2021 December ASQ Quality Progress: AIMM: An Improvement Roadmap
- 2022 April ASQ Quality Progress: A Better Understanding

Resources for ISO 9001:2015

The following have been prepared by ISO/TC 176/SC2 to inform and assist organizations in making the ISO 9001:2015 transition

- News on the ISO 9001 revision
- A summary of the changes, and on the revision of ISO 9001:2015
- Implementation Guidance for ISO 9001:2015
- A paper on ISO 9001 and Risk
- A presentation on ISO 9001 and Risk-Based Thinking
- Guidance on the requirements for Documented Information of ISO 9001:2015
- How Change is addressed within ISO 9001:2015
- A paper on the Process Approach in ISO 9001:2015
- presentation on the Process Approach in ISO 9001:2015

Events Calendar

« MAY 2022 »						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

MON 09 IAQG Meeting Week & 51st General Assembly
May 9 - May 12

Resource Links

- IAQG Sanctioned Aerospace Auditor Transition Training Support Material
- IAQG Standards Register Tracking Matrix
- IAQG Forms

Where to Buy

- Americas Published Standards
- Asia Pacific Published Standards
- European Published Standards

