Aerospace series - Quality management systems - Requirements for conducting audits of aviation, space, and defence quality management Systems

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 9101:2023 sisaldab Euroopa standardi EN 9101:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 9101:2023 consists of the English text of the European standard EN 9101:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.11.2023.	Date of Availability of the European standard is 01.11.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 03.100.70, 03.120.10, 03.120.20, 49.020

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 9101

November 2023

ICS 03.100.70; 03.120.10; 03.120.20; 49.020

Supersedes EN 9101:2018

English Version

Aerospace series - Quality management systems - Requirements for conducting audits of aviation, space, and defence quality management Systems

Série aérospatiale - Systèmes de management de la qualité - Exigences pour la conduite d'audits des systèmes de management de la qualité dans l'aéronautique, l'espace et la défense

Qualitätsmanagementsysteme - Luft- und Raumfahrt - Anforderungen an die Durchführung von Audits von Qualitätsmanagementsystemen in Luftfahrt, Raumfahrt und Verteidigung

This European Standard was approved by CEN on 7 August 2023.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 9101:2023 E

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European foreword

This document (EN 9101:2023) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2024, and conflicting national standards shall be withdrawn at the latest by May 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 9101:2018.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

0 Introduction

0.1 General

This document has been revised to align with the latest revision of the International Aerospace Quality Group (IAQG) 9104-1 standard, incorporating inputs received from interested parties, standard clarifications, and Other Party Management Team (OPMT) resolutions.

Industry established the IAQG, with representatives from Aviation, Space, and Defence (ASD) companies in the Americas, Asia/Pacific, and Europe, to implement initiatives that make significant improvements in quality and reductions in cost throughout the value stream.

This document has been prepared by the IAQG and standardizes the requirements for conducting audits of ASD Quality Management Systems (QMS). It can be used at all levels of the supply chain by organizations around the world.

This document supplements the existing International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17021-1 conformity assessment standard and provides requirements for an audit and reporting process, based on the:

a) process and continual improvement approach defined in EN 9100-series standards;

b) specific ASD additions in EN 9100-series standards;

c) use of common audit tools; and

d) uniform, transparent, and standardized reporting of audit results.

In this document, the following terms are used:

— “shall” indicates a requirement;

— “should” indicates a recommendation;

— “may” indicates a permission;

— “can” indicates a possibility or capability; and

— “days” are calendar days.

Words “example” or “e.g.” indicate suggestions given for guidance, and information marked “NOTE” is for guidance in understanding or clarifying the associated requirement[1].

Auditing is a basic tool to assess effective implementation of and conformity to QMS requirements. In addition to assessing conformity, this document focuses on the evaluation of effectiveness (see ISO 9000:2015, 3.7.11) of the QMS and its associated processes.

An organization is not only required to be in conformity with QMS requirements, but to be effective in meeting customer expectations and delivering products and services that meet those expectations.

[1] Notes to entry used in definitions, however, are considered normative and will provide additional information that supplements the terminological data such as statements, instructions, recommendations or requirements relating to the use of a term.

0.2 Auditing approach

This document supports the engagement and evaluation of an organization's QMS process approach, as required by the EN 9100-series standards. When evaluating an organization's QMS, there are basic questions that should be asked of every process, for example:

a) Is the process appropriately determined?

b) Are responsibilities assigned?

c) Are the processes adequately implemented and maintained?

d) Is the process effective in achieving the desired results?

The collective answers to these and other associated questions will contribute to the evaluation results.

In addition, product and service quality (as delivered), customer satisfaction, and QMS effectiveness can be considered as interrelated. This relationship should be reflected in the audit process and associated results.

0.3 Audit documented information

This document defines the documented information to be generated, during the audit process. The documented information is critical in providing the organization and its customers with objective evidence on the conformity and effectiveness of the QMS (including process effectiveness) and reporting the audit results in a standard format/structure.

1 Scope

1.1 General

This document defines requirements for the preparation and execution of the audit process. In addition, it defines the content and composition for the audit reporting of conformity and process effectiveness to the EN 9100-series standards, the organization's QMS documentation, and customer and statutory/regulatory requirements.

The requirements in this document are additions or represent changes to the requirements and guidelines in the standards for conformity assessment, auditing, and certification as published by ISO/IEC (i.e. ISO/IEC 17000:2020, ISO/IEC 17021-1). When there is conflict with these standards, the requirements of this document take precedence.

NOTE 1 In this document, the term "EN 9100-series standards" comprises the EN 9100, EN 9110, and EN 9120 standards, developed by the IAQG and published by various national standards bodies.

NOTE 2 In addition to this document, the IAQG publishes deployment support material on the IAQG website (see http://www.iaqg.org) that can be used by audit teams, when executing the audit process.

1.2 Application

This document is intended to be used for audits of EN 9100-series standards by Certification Bodies (CBs) for certification of organizations, under the auspices of the ASD industry certification scheme [also known as the Industry Controlled Other Party (ICOP) scheme]. The ICOP scheme requirements are defined in the EN 9104-series standards (i.e. EN 9104-1, EN 9104-2, EN 9104-3).

NOTE Relevant parts of this document can also be used by an organization in support of internal audits (1st party) and external audits at suppliers (2nd party).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 9100:2018,[2] *Quality management systems — Requirements for aviation, space and defence organizations*

EN 9110:2018,[2] *Quality management systems — Requirements for aviation maintenance organizations*

EN 9104-1:2022,[2, 3,] *Aerospace series — Quality management systems — Part 1: Requirements for certification of aviation, space and defence*

ISO 9000:2015, *Quality management systems — Fundamentals and vocabulary*

ISO/IEC 17000:2020, *Conformity assessment — Vocabulary and general principles*

[2] As developed under the auspice of the IAQG and published by various standards bodies [e.g., AeroSpace and Defence Industries Association of Europe – Standardization (ASD-STAN), SAE International, European Committee for Standardization (CEN), Japanese Standards Association (JSA)/Society of Japanese Aerospace Companies (SJAC), Brazilian Association for Technical Norms (ABNT)].

[3] Published as ASD-STAN Standard at the date of publication of this document by AeroSpace and Defence industries Association of Europe — Standardization (ASD-STAN), https://www.asd-stan.org/.

ISO/IEC 17021-1:2015, *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 1: Requirements*

IAQG Procedure 105.6, IAQG Forms Management

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO 9000:2015, ISO/IEC 17000:2020, EN 9100-series, EN 9104-series, IAQG International Dictionary[4] and the following apply.[5]

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp/

— IEC Electropedia: available at https://www.electropedia.org/

3.1
containment
action to control and mitigate the impact of a nonconformity to protect the customer, organization, or product (i.e., stop the problem from getting worse); includes immediate action, immediate communication, and verification to ensure that the nonconforming situation does not further degrade

3.2
key performance indicator
KPI
measures associated with goals or targets showing how well an organization is achieving its objectives or critical success factors; used to objectively define a quantifiable and measurable indication of performance

3.3
major nonconformity
nonconformity that affects the capability of the management system to achieve the intended results

Note 1 to entry: Nonconformities could be classified as major in the following circumstances:

— if there is a significant doubt that effective process control is in place, or that products or services will meet specified requirements;

— a number of minor nonconformities associated with the same requirement or issue could demonstrate a systemic failure and thus constitute a major nonconformity.

Note 2 to entry: In addition, a major nonconformity can be one or more of the following situations:

— a nonconformity where the effect is judged to be detrimental to the integrity or safe use of the product or service;

— the absence of or total breakdown of a system to meet a EN 9100-series standard requirement, a customer QMS requirement, or documented information defined by the organization;

— any nonconformity that can result in the probable delivery of nonconforming product or service;

— a condition that can result in the failure or reduce the usability of the product or service for its intended purpose.

[SOURCE: ISO/IEC 17021-1:2015, 3.12, modified — Note 2 to entry has been added]

[4] Located on the IAQG website: https://iaqg.org/tools/dictionary/.

[5] An acronym log for this document is presented in Annex A.