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Systémy manažérstva kvality Požiadavky na organizácie v letectve, kozmonautike a obrane Dodávaný softvér (doplnok k EN 9100)

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Quality Management Systems - Requirements for Aviation, Space and Defense Organizations - Deliverable Software (Supplement to EN 9100)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

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Quality Management Systems - Requirements for Aviation, Space and Defense Organizations - Deliverable Software (Supplement to EN 9100)

Systèmes de management de la Qualité - Exigences pour les Organisations de l'Aéronautique, l'Espace et la Défense - Logiciel livrable (Supplément à l'EN 9100) Qualitätsmanagementsysteme - Anforderungen an Organisationen der Luftfahrt, Raumfahrt und Verteidigung - Mitgelieferte Software (Ergänzung zu EN 9100)

This European Standard was approved by CEN on 28 March 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

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EN 9115:2018 (E)

Contents

		Page
Euro	opean foreword	3
Rationale		
Foreword		4
Inte	nded Application	4
0	Introduction	
1	Scope	6
2	Normative references	6
3	Terms and definitions	
4	Context of the organization	11
5	Leadership	12
6	Planning	12
7	Support	
8	Operation	
9	Performance evaluation	
10	Improvement	26
Bibliography		27

European foreword

This document (EN 9115:2018) 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 Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2019, and conflicting national standards shall be withdrawn at the latest by January 2019.

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 9115:2013.

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

EN 9115:2018 (E)

Rationale

This European standard supersedes the initial release of prEN 9115 published in April 2010. This European standard has been revised to incorporate the new clause structure and content of EN ISO 9001:2015. In addition, industry requirements, definitions, and notes have been revised in response to EN ISO 9001:2015 and EN 9100:2016 revisions and stakeholder needs.

This is the second revision of EN 9115 which is an international supplement to EN 9100 providing clarification of the corresponding EN 9100 requirements, as necessary, for deliverable software. In some cases, where clarification is needed, it was necessary due to the complexity of software to decompose "shall" statements in EN 9100 into more granular requirements. Where no software clarification is required of the EN 9100 requirements, the following phrase is presented: "The requirements of EN 9100 apply. No clarification required for software."

NOTE This document must be used in conjunction with EN 9100:2016; references throughout the text to EN 9100 are understood to mean EN 9100:2016.

Foreword

This document standardizes, to the greatest extent possible, the software quality management system requirements for the aviation, space, and defence industry. This was accomplished through the harmonization of quality management system requirements from international aviation, space, and defence software standards and other applicable documents and good practice. The establishment of common requirements for use at all levels of the supply-chain by organizations around the world should result in improved quality, schedule, and cost performance by the reduction or elimination of organization unique requirements and wider application of good practice.

Intended Application

The requirements of EN 9100 apply with the following clarification for software.

Organizations whose products are deliverable software or contain deliverable software should use the supplemental EN 9115 standard when planning and evaluating the software design, development, release, procurement, and management activities of the organization. The EN 9115 standard provides guidance to the requirements of EN 9100 when it is desired to add "deliverable software" to the organization's EN 9100-registration certificate, and a greater depth of specificity and granularity to the requirements for assuring that the objectives of EN 9100 will be met for deliverable software.

NOTE This document is independent of the life cycle models (e.g., waterfall, spiral, agile, evolutionary, incremental) or methodology (e.g., objected oriented design, unified modelling language).

0 Introduction

0.1 General

The requirements of EN 9100 apply. No clarification required for software.

0.2 Quality management principles

The requirements of EN 9100 apply. No clarification required for software.

0.3 Process approach

The requirements of EN 9100 apply. No clarification required for software.

0.3.1 General

The requirements of EN 9100 apply. No clarification required for software.

0.3.2 Plan-do-check-act cycle

The requirements of EN 9100 apply. No clarification required for software.

0.3.3 Risk-based thinking

The requirements of EN 9100 apply. No clarification required for software.

0.4 Relationship with other management system standards

The requirements of EN 9100 apply. No clarification required for software.

EN 9115:2018 (E)

1 Scope

The requirements of EN 9100 apply with the following clarification for software.

This European standard supplements the EN 9100 standard requirements for deliverable software and contains quality management system requirements for organizations that design, develop, and/or produce deliverable software and services for the aviation, space, and defence industry. This includes, as required, support software that is used in the development and maintenance of deliverable software and services. The deliverable software may be stand-alone, embedded, mobile application, or loadable into a target computer

This deliverable software may also be part of services (e.g., cloud environment, web hosted solutions or platforms).

Where the use of Hardware Description Language (HDL) or high order language is utilized as the design source of electronic hardware [e.g., Application Specific Integrated Circuit (ASIC), Programmable Logic Device (PLD)]; the organization and customer, and/or supplier shall agree on the extent of applicability of this supplement.

NOTE For airborne electronic hardware guidance, see RTCA/DO-254 or EUROCAE ED-80. For operations requirements, see EN 9100, clause 8.

Where Commercial-Off-The-Shelf (COTS) or non-developmental software is integrated into a deliverable product, the organization and customer shall agree on the extent of applicability of this supplement.

For the purposes of this document, the terms "product" and "software product" are considered synonymous.

For the purposes of this document, the term "services" may be considered a product.

2 Normative references

The requirements of EN 9100 apply with the following clarification for software.

EN 9100:2016, Quality Management Systems — Requirements for Aviation, Space and Defence Organizations

NOTE Documents referenced in this European standard, other than the normative references (i.e., EN ISO 9000, EN ISO 9001, EN 9100), are listed in the supporting bibliographies (see Annex A and Annex B). For undated references, the latest edition of the referenced document (including any amendments) applies. The referenced documents are "informative" references; the requirements of these referenced documents do not add any additional requirements to this European standard.

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