



SLOVENSKI STANDARD SIST EN 16602-20-07:2016

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Nadomešča:
SIST EN 14736:2004

Zagotavljanje varnih proizvodov v vesoljski tehniki - Zagotavljanje kakovosti in varnosti vesoljskih preskusnih centrov

Space produce assurance - Quality and safety assurance for space test centres

Raumfahrtproduktsicherung - Sicherstellung von Qualität und Sicherheit in

Assurance produit des projets spatiaux - Assurance de la qualité et de la sécurité pour les centres de test

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49.140	Vesoljski sistemi in operacije	Space systems and operations

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EUROPEAN STANDARD

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English version

Space product assurance - Quality and safety assurance for space test centres

Assurance produit des projets spatiaux - Assurance de la qualité et de la sécurité pour les centres de test

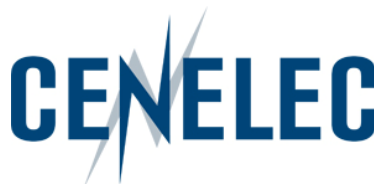
Raumfahrtproduktsicherung - Sicherstellung von Qualität und Sicherheit in Raumfahrttestzentren

This European Standard was approved by CEN on 22 May 2016.

CEN and CENELEC 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 and CENELEC 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 and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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European Foreword

This document (EN 16602-20-07:2016) has been prepared by Technical Committee CEN-CENELEC/TC 5 "Space", the secretariat of which is held by DIN.

This standard (EN 16602-20-07:2016) originates from ECSS-Q-ST-20-07C.

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 February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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

This document supersedes EN 14736:2004.

The main changes with respect to EN 14736:2004 are listed below:

- new EN number and modified title, <https://standards.iteh.ai/catalog/standards/sist/fl60c397-a840-4e5e-b530-d1156f716f1/document/en-16602-20-07-2016>
- Reorganization of the content of the document to separate descriptive text and requirements, including clarification, modification of requirements and implementation of change requests,
- Transformation of the informative Annex C "Questionnaire on the use of hazardous items and operations" of the previous version into a Normative DRD in Annex A,
- Removal of all references to ISO 9001 paragraphs, replaced by requirement 5.1a, which makes applicable the complete EN 9100 standard,
- Increased focus on configuration control, traceability of the measurement chain, and dependability and safety of test facilities technical revision of content,

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document has been developed to cover specifically space systems and has therefore precedence over any EN covering the same scope but with a wider domain of applicability (e.g. : aerospace).

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This standard was developed to ensure that space test centres working for European space projects operate a quality and safety assurance system in line with ECSS requirements, internationally recognised standards and best working practices.

This standard makes applicable the requirements of EN 9100:2009 and provides additional requirements specific to space test centres. The quality management system of the space test centre, or that of the organization of which it is part, is to be in conformance with these requirements.

This standard also incorporates requirements from ISO/IEC 17025:2005 that are considered applicable for space test centres working for space projects.

This standard does not make compulsory Certification of the space test centre against the requirements of the aforementioned standards by a recognised certification authority.

This standard was originally prepared with focus on organisations capable of providing test services for space and launch segment elements and subsystems.

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Scope

This standard specifies quality assurance and safety assurance requirements for space test centres, applicable to the test process, test personnel (both, of the customer and the space test centre), test facilities, test environment and any operations related to the test specimen under responsibility of the space test centre as requested by the customer.

This standard may be tailored for the specific characteristic and constraints of a space project in conformance with ECSS-S-ST-00.

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Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revision of any of these publications do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the more recent editions of the normative documents indicated below. For undated references, the latest edition of the publication referred to applies.

EN reference	Reference in text	Title
EN 16601-00-01	ECSS-S-ST-00-01	ECSS - Glossary of terms
EN 16603-10-03	ECSS-E-ST-10-03	Space engineering - Testing
EN 16602-10-09	ECSS-Q-ST-10-09	Space product assurance - Nonconformance control system
EN 16602-20	ECSS-Q-ST-20	Space product assurance - Quality assurance
EN 16602-20-08	ECSS-Q-ST-20-08	Space product assurance - Storage, handling and transportation of spacecraft hardware
EN 16602-70	ECSS-Q-ST-70	Space product assurance - Materials, mechanical parts and processes
EN 16602-70-01	ECSS-Q-ST-70-01	Space product assurance - Cleanliness and contamination control
	ISO 9000:2005	Quality management systems - Fundamentals and Vocabulary
	EN 9100:2009	Quality Management Systems - Requirements for Aviation, Space and Defense Organisations
	ISO/IEC 17025:2005	General requirements for the competence of testing and calibration laboratories
	ISO 10012:2003	Measurement management systems - Requirements for measurement processes and measuring equipment

Terms, definitions and abbreviated terms

3.1 Terms from other standards

- a. For the purpose of this standard, the terms and definitions from ECSS-S-ST-00-01 apply, in particular for the following terms:

1. approval
2. assurance
3. audit
4. availability
5. calibration
6. certification
7. cleanroom
8. corrective action
9. critical item
10. dependability
11. preventive action
12. procedure
13. process
14. product
15. quality assurance
16. reliability
17. risk
18. safety
19. test
20. traceability

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- b. For the purpose of this standard, the following terms and definitions from ECSS-Q-ST-70 apply:

1. critical process

- c. For the purpose of this standard, the following terms and definitions from ISO 9000:2005 apply:
1. management system
 2. quality management system
 3. quality policy
 4. top management

3.2 Terms specific to the present standard

3.2.1 critical operation

operation that can result in injury to persons, significant material damage or other unacceptable consequences if not properly performed

3.2.2 modification

<<CONTEXT: test facility>> change in the configuration of an existing test facility

3.2.3 quality representative

<<CONTEXT: test centres>> representative from the space test centre management with designated responsibility for quality management

3.2.4 safety management system

<<CONTEXT: test centres>> management system to direct and control the space test centre organization with regard to safety

3.2.5 safety policy

<<CONTEXT: test centres>> overall intentions and directions of the space test centre with regards to safety as formally expressed by top management

3.2.6 safety representative

<<CONTEXT: test centres>> representative from the space test centre management with designated responsibility for safety

3.2.7 space test centre

complete entity including the organization that provides, maintains and operates test facilities for space projects and applications, including accompanied services

3.2.8 test campaign

<<CONTEXT: test centres>> series of test processes starting with the arrival of the test specimen in the space test centre and ending with its departure from the space test centre

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3.2.9 test facility

technical plant to provide specific simulated conditions for testing equipment for space projects and applications, including test connections and instrumentation attached as necessary to perform the test

NOTE Test facility includes test equipment and associated infrastructure, including supplies.

3.2.10 test personnel

staff developing, maintaining or operating a test process

3.2.11 test process

set of activities necessary to perform a test, or a series of tests, to comply with the requirements specified in the business agreement

NOTE This includes, but is not limited to, test design, planning, preparation, acceptance, performance, reporting, reviewing and recording.

3.2.12 test specimen

item or device under test

NOTE This term is synonym of test article and test item.

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3.3 Abbreviated terms and symbols

For the purpose of this standard, the abbreviated terms from ECSS-S-ST-00-01 apply, with the following exception:

Abbreviation	Meaning
FRR	facility readiness review

3.4 Nomenclature**3.4.1 Formal verbs**

The following nomenclature apply throughout this document:

- The word “shall” is used in this document to express requirements. All the requirements are expressed with the word “shall”.
- The word “should” is used in this document to express recommendations. All the recommendations are expressed with the word “should”.

NOTE It is expected that, during tailoring, all the recommendations in this standard are either converted into requirements or tailored out.

- The words “may” and “need not” are used in this document to express positive and negative permissions respectively. All the positive permissions are expressed with the word “may”. All the negative permissions are expressed with the words “need not”.

- The word “can” is used in this document to express capabilities or possibilities, and therefore, if not accompanied by one of the previous words, it implies descriptive text.
NOTE In ECSS “may” and “can” have a complete different meaning: “may” is normative (permission) and “can” is descriptive.
- The present and past tense are used in this document to express statement of fact, and therefore they imply descriptive text.

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