



SLOVENSKI STANDARD
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SIST EN 13291-1:2000

Zagotavljanje kakovosti proizvodov v vesoljski tehniki - Ureditev zagotavljanja kakovosti proizvodov

Space product assurance - Product assurance management

Raumfahrtproduktsicherung - Management der Produktsicherung

Assurance produit des projets spatiaux - Gestion de l'assurance produit

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EUROPEAN STANDARD

EN 16602-10

NORME EUROPÉENNE

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English version

Space product assurance - Product assurance management

Assurance produit des projets spatiaux - Gestion de
l'assurance produitRaumfahrtproduktsicherung - Management der
Produktsicherung

This European Standard was approved by CEN on 22 December 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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European foreword

This document (EN 16602-10:2017) has been prepared by Technical Committee CEN-CENELEC/TC 5 "Space", the secretariat of which is held by DIN.

This standard (EN 16602-10:2017) originates from ECSS-Q-ST-10C Rev.1.

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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.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 13291-1:1999 Space products assurance - General requirements - Part 1: Policy and principles.

The main changes with respect to EN 13291-1:1999 are listed below:

- new EN number and modified title,
- material common to the three ECSS branches (Space engineering, Space project management and Space product assurance moved to EN 16601-00 (EN version of ECSS-S-ST-00), material specific to product assurance to this standard,
- reorganization of the content of the document to separate descriptive text and requirements, including clarification, modification of requirements and implementation of change requests,
- pre-tailoring matrix (Clause 6) added,
- addition of new DRDs.

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

1 Scope

The ECSS standards of the Q branch describe a set of requirements for a Product Assurance programme to be implemented throughout the phases of a space project.

This document defines the Product assurance management requirements for space projects.

This document is structured in two main parts, the first part presenting the principles of Product Assurance management and the second providing the detailed requirements.

In addition, the expected content of the Product Assurance plan is specified in Annex A. Information on the expected delivery of ECSS PA management discipline documents per review is provided in Annex D.

This Standard is applicable to all space projects.

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

<https://standards.iteh.ai/catalog/standards/sist-en-16602-10-2017>

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 system - Glossary of terms
EN 16602-10-04	ECSS-Q-ST-10-04	Space product assurance – Critical-item control
EN 16602-10-09	ECSS-Q-ST-10-09	Space product assurance – Nonconformance control system

Terms, definitions and abbreviated terms

3.1 Terms and definitions from other standards

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

acceptance

alert

approval

assembly

audit

component

configuration item

conformance [SIST EN 16602-10:2017](https://standards.iteh.ai/catalog/standards/sist/f66578fc-66df-4dd9-8db7-00c931856391/sist-en-16602-10-2017)

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critical item

customer

dependability

failure

function

nonconformance

performance

planetary protection

procedure

process

product

product assurance

project

qualification

quality assurance

review

risk

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safety
space mission
supplier
system
traceability
waiver

3.2 Abbreviated terms

For the purpose of this Standard, the abbreviated terms from ECSS-S-ST-00-01 and the following apply:

Abbreviation	Meaning
EEE	electrical, electronic, electromechanical
MIP	mandatory inspection point
PA	product assurance
QA	quality assurance
QSL	qualification status list

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4

Principles

4.1 General principles

The prime objective of Product Assurance is to ensure that space products accomplish their defined mission objectives in a safe, available and reliable way.

Commitment to quality of the entire organization is key to the Quality of the product and success of the space mission. The management of Product Assurance is fully embedded in the management of the project and receives the highest priority from the organization management.

The early identification of aspects potentially detrimental for safety and mission success, and the cost-effective prevention of any adverse consequence of such aspects are the basic principles for the ECSS Product Assurance requirements.

Product Assurance Management ensures the integration of activities from the Product Assurance disciplines defined in the other ECSS standards of the Q branch, namely:

- Q-20 Quality assurance
- Q-30 Dependability
- Q-40 Safety
- Q-60 Electrical, electronic, electromechanical (EEE) components
- Q-70 Materials, mechanical parts and processes
- Q-80 Software product assurance

4.2 PA programme planning

The requirements for Product Assurance planning specified in clause 5.1 address the following aspects:

- Definition of a Product Assurance organization with the allocation of adequate resources, personnel and facilities
- Definition of Product Assurance requirements for lower tier suppliers
- Definition of a Product Assurance Plan describing the Product Assurance programme and how it fulfils project objectives and requirements

4.3 PA programme implementation

The requirements for Product Assurance programme implementation specified in clause 5.2 address the following aspects:

- Management and control of the PA tasks performed by the PA disciplines
- Progress reporting of all Product Assurance matters
- Management of audits, critical items, nonconformances and alerts,
- Support to the risk management, in coordination with the Project Management functions
- Support to the documentation and data control , quality records and to configuration management.
- Lower-tier supplier control for ensuring implementation of PA requirements by the suppliers

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