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Nadomešča:
SIST EN ISO 21351:2005

Vesoljska tehnika - 10-6. del: Specifikacija tehničnih zahtev

Space engineering - Part 10-06: Technical requirements specification

Raumfahrttechnik - Teil 10-06: Spezifizierung technischer Anforderungen

Ingénierie spatiale - Partie 10-06: Spécification technique de besoin

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Space engineering - Part 10-06: Technical requirements specification

Ingénierie spatiale - Partie 10-06: Spécification technique de besoin

Raumfahrttechnik - Teil 10-06: Spezifizierung technischer Anforderungen

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EN 16603-10-06:2014 (E)

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Foreword

This document (EN 16603-10-06:2014) has been prepared by Technical Committee CEN/CLC/TC 5 "Space", the secretariat of which is held by DIN.

This standard (EN 16603-10-06:2014) originates from ECSS-E-ST-10-06C.

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of an identical text or by endorsement, at the latest by February 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

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 will supersede EN ISO 21351:2005.

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 addresses the process for and the content of the Technical requirements specification (TS).

This document is an adaptation of ISO 21351 "Space systems — Functional and technical specifications" to the ECSS context.

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1
Scope

This Standard provides an overview of the purposes and positions of the technical requirements specification, defines the different types of requirements, and defines requirements on the TS and on its requirements.

This Standard is applicable to all types of space systems, all product elements, and projects.

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

2
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 16603-10-02	ECSS-E-ST-10-02	Space engineering – Verification

3
Terms, definitions and abbreviated terms

3.1 Terms from other standards

For the purposes of this Standard, the terms and definitions from ECSS-S-ST-00-01 apply.

3.2 Terms specific to the present standard

3.2.1 constraint

characteristic, result or design feature which is made compulsory or has been prohibited for any reason

NOTE 1   Constraints are generally restrictions on the choice of solutions in a system.

NOTE 2   Two kinds of constraints are considered, those which concern solutions, and those which concern the use of the system.

NOTE 3   For example constraints can come from environmental and operational conditions, law, standards, market demand, investments and means availability, or the organization's policy.

NOTE 4   Adapted from EN 1325-1.

3.2.2 environment

<product> natural conditions and induced conditions that constrain the design definitions for end products and their enabling products

NOTE   Examples of natural conditions are weather, climate, ocean conditions, terrain, vegetation, dust, light and radiation. Example of induced conditions are electromagnetic interference, heat, vibration, pollution and contamination.

3.2.3 environment

<project> external factors affecting an enterprise or project

3.2.4 environment

<development> external factors affecting development tools, methods, or processes

3.2.5 function

intended effect of a system, subsystem, product or part

> NOTE 1 Adapted from EN 1325-1.
>
> NOTE 2 Functions should have a single definite purpose. Function names should have a declarative structure (e.g. "Validate Telecommands"), and say "what" is to be done rather than "how". Good naming allows design components with strong cohesion to be easily derived.

3.2.6 functional analysis

technique of identifying and describing all functions of a system

> NOTE Adapted from EN 1325-1.

3.2.7 life cycle

time interval between the conceptual exploration of the product introduction to its withdrawal from service

3.2.8 mission

a possible instantiation of the mission statement in a mission concept

> NOTE 1 Each mission is described in an MDD.
>
> NOTE 2 The implementation in time is called mission scenario.

3.2.9 need

what is necessary for, or desired by, the user

> NOTE 1 A need can be declared or undeclared; it can be an existing or a potential one.
>
> NOTE 2 The user is a person or an organization for which the product is designed and which exploits at least one of its functions at any time during its life cycle.
>
> NOTE 3 For the space community, the needs are often called mission statement.
>
> NOTE 4 Adapted from EN 1325-1.

3.2.10 specification

document stating requirements

> NOTE 1 A specification can be related to activities (e.g. procedure document, process specification and test specification), or products (e.g. technical requirements specification)
>
> NOTE 2 Adapted from ISO 9000:2000.

3.2.11 technical requirements specification

document by which the customer establishes the intended purpose of a product, its associated constraints and environment, the operational and performances features

> NOTE The TS is the baseline of the business agreement to develop or purchase the selected solution. This specification is called in some projects System Requirements Document (SRD).

3.3 Abbreviated terms

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

Abbreviation	Meaning
IEC	International Electrotechnical Commission
TS	technical requirements specification
MDD	mission definition document

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