SLOVENSKI STANDARD
SIST EN 16603-70-31:2015

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Vesoljska tehnika - Zemeljski sistemi in delovanje - Nadzorovanje in krmiljenje nadzornih podatkov

Space engineering - Ground systems and operations - Monitoring and control data definition

Raumfahrttechnik - Bodensysteme und Bodenbetrieb - Überwachung und Definitionen zu Steuerdaten

Ingénierie spatiale - Systèmes sol et opérations - Définition des données de commande et contrôle

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Space engineering - Ground systems and operations - Monitoring and control data definition

Ingénierie spatiale - Systèmes sol et opérations - Définition des données de commande et contrôle

Raumfahrttechnik - Bodensysteme und Bodenbetrieb - Überwachung und Definitionen zu Steuerdaten

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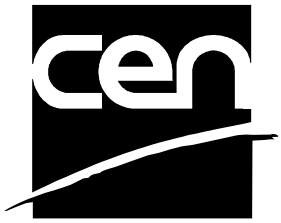

CEN-CENELEC Management Centre:
Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 16603-70-31:2015) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16603-70-31:2015) originates from ECSS-E-ST-70-31C.

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of an identical text or by endorsement, at the latest by July 2015, and conflicting national standards shall be withdrawn at the latest by July 2015.

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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

As described in ECSS-S-ST-00 and ECSS-E-ST-10, the development of a space system is an incremental task involving different entities, who can participate as customer or supplier at different levels of space system integration.

Documentation and data of different types is exchanged between supplier and customer. The purpose of this Standard is to define the data to be provided by the supplier to the customer in order to be able to monitor and control the product delivered. Formally, this data is part of the user manual for the corresponding element of the space system (see ECSS-E-ST-70).

1
Scope

This Standard defines the monitoring and control data that a supplier delivers together with a product in order to allow a customer to perform space system integration, testing and mission operations.

The requirements in this Standard are defined in terms of *what* data is provided by the supplier to the customer. *How* this data is provided (e.g. using spreadsheet data or XML) is outside of scope.

The Standard assumes that missions conform to the following ECSS standards:

- ECSS-E-ST-50 and ECSS-E-ST-70;
- ECSS-E-ST-70-41;
- ECSS-E-ST-70-32.

This standard may be tailored for the specific characteristics and constrains 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 16603-50	ECSS-E-ST-50	Space engineering - Communications
EN 16603-70	ECSS-E-ST-70	Space engineering - Ground systems and operations -
EN 16603-70-01	ECSS-E-ST-70-01	Space engineering - On board control procedures
EN 16603-70-11	ECSS-E-ST-70-11	Space engineering - Space segment operability
EN 16603-70-32	ECSS-E-ST-70-32	Space engineering - Test and operations procedure language
EN 16603-70-41	ECSS-E-ST-70-41	Space engineering - Telemetry and telecommand packet utilization

3
Terms, definitions and abbreviated terms

3.1 Terms from other standards

For the purpose of this Standard, the terms and definitions from ECSS-S-ST-00-01 and ECSS-E-ST-70 apply, in particular for the following terms:

anomaly

assembly

availability

contingency procedure

emergency

mission

procedure

space system

subsystem

system

test

validation

verification

3.2 Terms specific to the present standard

3.2.1 activity

space system monitoring and control function

3.2.2 compound parameter

record comprised of any sequence of **reporting data**, arrays of **reporting data** and sub-records that are interpreted together

NOTE E.g.: an anomaly report generated by the space segment comprising an anomaly report ID and a set of associated **parameters**.

3.2.3 event

occurrence of a condition or set of conditions that can arise during the course of a test session or mission phase

3.2.4 parameter

lowest level of elementary information that has a meaning for monitoring the space system

3.2.5 reporting data

data used for assessing the functioning of the space system

NOTE Reporting data can consist of a **parameter** (a simple type) or a **compound parameter** (a complex type).

3.2.6 resource

stock or supply, either depletable or shareable in nature, that can be drawn upon, or provided by, an element of the space system during operation

3.2.7 space system model

representation of the space system in terms of its decomposition into **system elements**, the **activities** that can be performed on these **system elements**, the **reporting data** that reflects the state of these **system elements** and the **events** that can be raised and handled for the control of these **system elements**, **activities** or **reporting data**

3.2.8 synthetic parameter

reporting data generated within the monitoring and control system by means of an expression which may use other **reporting data** and constants as input

3.2.9 system element

representation within the **space system model** of a functional element of the space system

3.3 Abbreviated terms

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

Abbreviation	Meaning
AD	acceptance of data
AOCS	attitude and orbit control subsystem
APID	application process identifier
BD	bypass of data
CDMU	command and data management unit
CI	configuration item
COTS	commercial off-the-shelf