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STN	**Kozmická technika** **Definícia úrovní technologickej pripravenosti (TRL) a ich kritérií na posudzovanie (ISO 16290: 2013, modifikovaná)**	**STN** **EN 16603-11** 31 0543

Space engineering - Definition of the Technology Readiness Levels (TRLs) and their criteria of assessment (ISO 16290:2013, modified)

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

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English version

Space engineering - Definition of the Technology Readiness Levels (TRLs) and their criteria of assessment (ISO 16290:2013, modified)

Ingénierie spatiale - Définition des Niveaux de Maturité de la Technologie (TRL) et de leurs critères d'évaluation (ISO 16290:2013, modifiée)

Raumfahrttechnik - Definition des Technologie-Reifegrades (TRL) und der Beurteilungskriterien (ISO 16290:2013, modifiziert)

This European Standard was approved by CEN on 23 August 2019.

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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.

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European Foreword

This document (EN 16603-11:2019) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

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.

The text of the International Standard ISO 16290:2013 was approved by CEN/CENELEC as a European Standard with agreed common modifications.

This document originates from ISO 16290:2013 taking into account the specificities of the ECSS Adoption Notice ECSS-E-AS-11C “Space engineering -Adoption Notice of ISO 16290, Space systems - Definition of the Technology Readiness Levels (TRLs) and their criteria of assessment”. These specificities are listed in Clause 5 of this standard.

This document has been developed to cover specifically space systems and will therefore have 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 organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Technology Readiness Levels (TRLs) are used to quantify the technology maturity status of an element intended to be used in a mission. Mature technology corresponds to the highest TRL, namely TRL 9, or flight proven elements.

The TRL scale can be useful in many areas including, but not limited to the following examples:

a) For early monitoring of basic or specific technology developments serving a given future mission or a family of future missions;

b) For providing a status on the technical readiness of a future project, as input to the project implementation decision process;

c) In some cases, for monitoring the technology progress throughout development.

The TRL descriptions are provided in Clause 3 of this document. The achievements that are requested for enabling the TRL assessment at each level are identified in the summary table in Clause 4. The detailed procedure for the TRL assessment is to be defined by the relevant organization or institute in charge of the activity.

The originating document (ISO 16290:2013) of this document was produced by taking due consideration of previous available documents on the subject, in particular including those from the National Aeronautics Space Administration (NASA), the US Department of Defence (DoD) and European space institutions (DLR, CNES and ESA).

1 Scope

This document defines Technology Readiness Levels (TRLs). It is applicable primarily to space system hardware, although the definitions could be used in a wider domain in many cases.

The definition of the TRLs provides the conditions to be met at each level, enabling accurate TRL assessment.

2 Normative references

There are no normative references in this document.