

Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 6: Assessment of system operability

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|   |  |
|---|--|
| See Eesti standard EVS-EN 61069-6:2016 sisaldab Euroopa standardi EN 61069-6:2016 ingliskeelset teksti.             | This Estonian standard EVS-EN 61069-6:2016 consists of the English text of the European standard EN 61069-6:2016.                  |
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English Version

**Industrial-process measurement, control and automation -  
Evaluation of system properties for the purpose of system  
assessment - Part 6: Assessment of system operability  
(IEC 61069-6:2016)**

Mesure, commande et automation dans les processus  
industriels - Appréciation des propriétés d'un système en vue  
de son évaluation - Partie 6: Évaluation de l'opérabilité d'un  
système  
(IEC 61069-6:2016)

Leittechnik für industrielle Prozesse - Ermittlung der  
Systemeigenschaften zum Zweck der Eignungsbeurteilung  
eines Systems - Teil 6: Eignungsbeurteilung der  
Systembedienbarkeit  
(IEC 61069-6:2016)

This European Standard was approved by CENELEC on 2016-07-20. 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 CENELEC member.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

## European foreword

The text of document 65A/794/FDIS, future edition 2 of IEC 61069-6, prepared by SC 65A "System aspects", of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61069-6:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-04-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-07-20

This document supersedes EN 61069-6:1998.

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The text of the International Standard IEC 61069-6:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

|                  |      |   |
|------------------|------|---|
| IEC 61069-3:2016 | NOTE | Harmonized as EN 61069-3:201X <sup>1)</sup> (not modified). |
| IEC 61069-4:2016 | NOTE | Harmonized as EN 61069-4:201X <sup>1)</sup> (not modified). |
| IEC 61069-8      | NOTE | Harmonized as EN 61069-8.                                   |
| IEC/TS 62603-1   | NOTE | Harmonized as CLC/TS 62603-1.                               |
| ISO 6385         | NOTE | Harmonized as EN ISO 6385.                                  |
| ISO 9241-10      | NOTE | Harmonized as EN ISO 9241-10.                               |
| ISO 10075-1      | NOTE | Harmonized as EN ISO 10075-1.                               |
| ISO 10075-2      | NOTE | Harmonized as EN ISO 10075-2.                               |
| ISO 11064-1      | NOTE | Harmonized as EN ISO 11064-1.                               |
| ISO 11064-7      | NOTE | Harmonized as EN ISO 11064-7.                               |

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1) To be published.

## Annex ZA

(normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

| <u>Publication</u> | <u>Year</u> | <u>Title</u>  | <u>EN/HD</u> | <u>Year</u>        |
|--------------------|-------------|---|--------------|--------------------|
| IEC 61069-1        | 2016        | Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment -<br>Part 1: Terminology and basic concepts | EN 61069-1   | 201X <sup>2)</sup> |
| IEC 61069-2        | 2016        | Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment -<br>Part 2: Assessment methodology         | EN 61069-2   | 201X <sup>2)</sup> |

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2) To be published.

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## INTRODUCTION

IEC 61069 deals with the method which should be used to assess system properties of a basic control system (BCS). IEC 61069 consists of the following parts.

- Part 1: Terminology and basic concepts
- Part 2: Assessment methodology
- Part 3: Assessment of system functionality
- Part 4: Assessment of system performance
- Part 5: Assessment of system dependability
- Part 6: Assessment of system operability
- Part 7: Assessment of system safety
- Part 8: Assessment of other system properties

Assessment of a system is the judgement, based on evidence, of the suitability of the system for a specific mission or class of missions.

To obtain total evidence would require complete evaluation (for example under all influencing factors) of all system properties relevant to the specific mission or class of missions.

Since this is rarely practical, the rationale on which an assessment of a system should be based is:

- the identification of the importance of each of the relevant system properties;
- the planning for evaluation of the relevant system properties with a cost-effective dedication of effort to the various system properties.

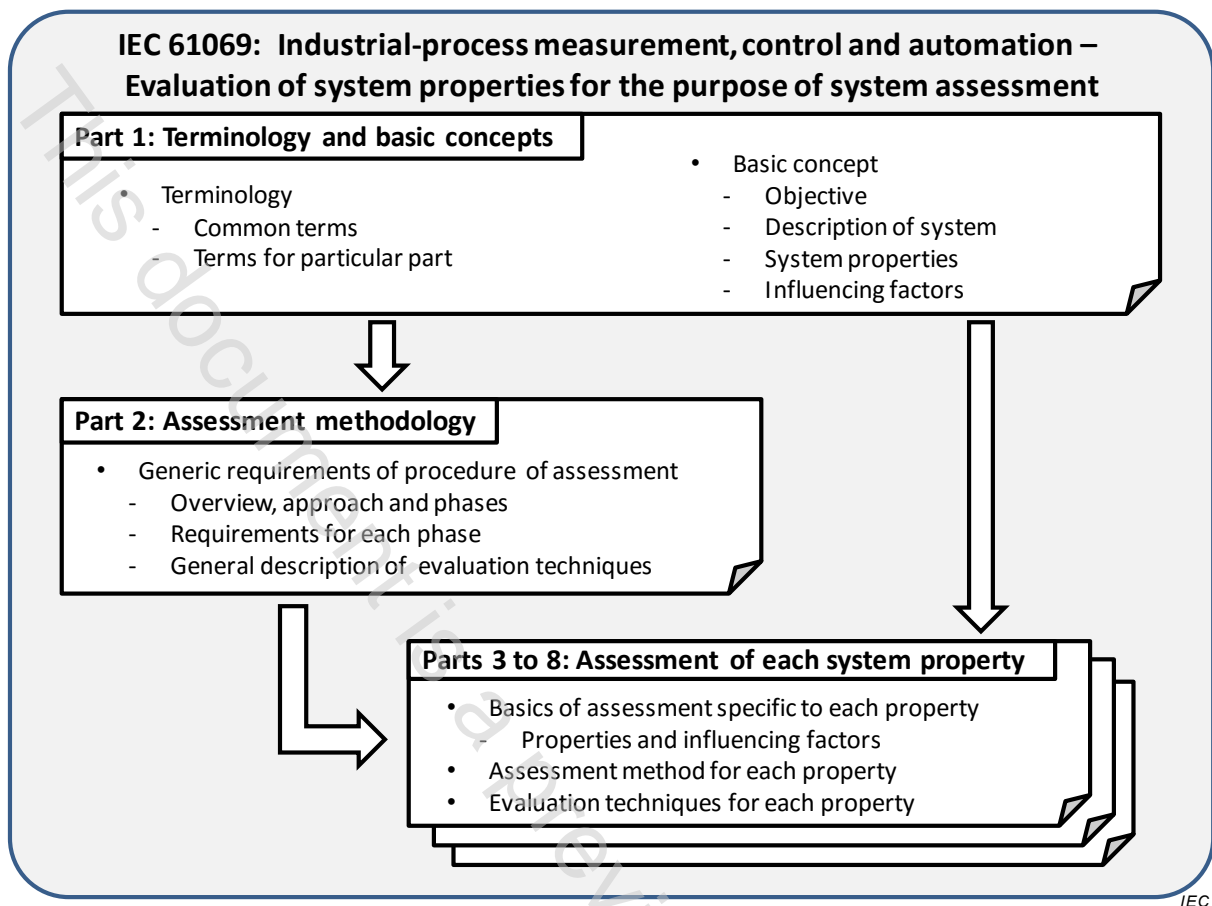
In conducting an assessment of a system, it is crucial to bear in mind the need to gain a maximum increase in confidence in the suitability of a system within practical cost and time constraints.

An assessment can only be carried out if a mission has been stated (or given), or if any mission can be hypothesized. In the absence of a mission, no assessment can be made; however, evaluations can still be specified and carried out for use in assessments performed by others. In such cases, IEC 61069 can be used as a guide for planning an evaluation and it provides methods for performing evaluations, since evaluations are an integral part of assessment.

In preparing the assessment, it can be discovered that the definition of the system is too narrow. For example, a facility with two or more revisions of the control systems sharing resources, for example a network, should consider issues of co-existence and inter-operability. In this case, the system to be investigated should not be limited to the “new” BCS; it should include both. That is, it should change the boundaries of the system to include enough of the other system to address these concerns.

The series structure and the relationship among the parts of IEC 61069 are shown in Figure 1.





**Figure 1 – General layout of IEC 61069**

Some example assessment items are integrated in Annex C.