



BSI Standards Publication

Maintenance — Maintenance Key Performance Indicators

This is a preview of BS EN 15341:2019+A1:2022. [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN 15341:2019+A1:2022. It supersedes BS EN 15341:2019 which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee DS/1, Dependability.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2023
Published by BSI Standards Limited 2023

ISBN 978 0 539 16048 2

ICS 03.100.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2019.

Amendments/corrigenda issued since publication

Date	Text affected
31 March 2023	Implementation of CEN amendment A1:2022

This is a preview of BS EN 15341:2019+A1:2022. [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

June 2022

ICS 03.100.99

Supersedes EN 15341:2019

English Version

Maintenance - Maintenance Key Performance Indicators

Maintenance - Indicateurs de performance clés pour la maintenance

Instandhaltung - Wesentliche Leistungskennzahlen für die Instandhaltung

This European Standard was approved by CEN on 14 July 2019 and includes Amendment 1 approved by CEN on 20 April 2022.

CEN 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 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 member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents		Page
European foreword		3
Introduction		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	Maintenance function	6
5	KPIs and their objectives	8
5.1	General	8
5.2	Influencing factors	9
5.3	Maintenance Resources	9
5.4	Maintenance Processes	10
6	Maintenance KPIs Matrix	10
7	KPIs of “Maintenance within Physical Asset Management”	11
8	KPIs of Sub-function “Health-Safety-Environment (HSE)” on Maintenance	16
9	KPIs of Sub-function “Maintenance Management”	20
10	KPIs of Sub-function “People Competence”	26
10.1	General	26
10.2	Qualification	27
11	KPIs of Sub-function “Maintenance Engineering”	30
12	KPIs of Sub-function “Organization and Support”	33
13	KPIs of Sub-function “Administration and Supply”	39
14	KPIs of Sub-function “Information and Communication Technology”	44
15	Process to improve maintenance performance	47
15.1	Use of KPI	47
15.2	Classification of Maintenance Indicators	47
15.3	Steps for an Improvement Process	48
15.4	Maintenance assessment	49
Bibliography		51

This is a preview of BS EN 15341:2019+A1:2022. [Click here to purchase the full version from the ANSI store.](#)

European foreword

This document (EN 15341:2019+A1:2022) has been prepared by Technical Committee CEN/TC 319 “Maintenance”, the secretariat of which is held by UNI.

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 December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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.

This document includes Amendment 1 approved by CEN on 20 April 2022.

This document supersedes A1 EN 15341:2019 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

The main technical changes compared to the previous EN 15341:2007 are the following:

- the standard was fully revised;
- the vision on all the Maintenance Components was enlarged, structuring the standard in a more complete way maintaining the economical, technical, organizational KPI of the previous edition.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

Maintenance Key Performance Indicators (KPI) of the Maintenance Function apply to all the physical assets either industrial, infrastructures or civil buildings or transportation systems, etc.

These indicators should be used to:

- a) measure the status;
- b) compare (internal and external benchmarks);
- c) diagnose (analysis of strengths and weaknesses);
- d) identify objectives and define targets to be reached;
- e) plan improvement actions;
- f) regular measurement of changes over time.

Maintenance of software alone is not covered in this document. However, maintenance of items and systems containing software is considered.

This is a preview of BS EN 15341:2019+A1:2022. Click here to purchase the full version from the ANSI store.

1 Scope

This document lists Key Performance Indicators (KPIs) of the Maintenance Function and gives guidelines to define a set of suitable indicators, to appraise and to improve effectiveness, efficiency and sustainability in the maintenance of the existing physical assets either industrial, infrastructures, facilities, civil buildings or transportation systems, etc. in the framework of the external and internal influencing factors.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13306:2017, *Maintenance — Maintenance terminology*

EN 15628:2014, *Maintenance — Qualification of maintenance personnel*

IEC 60050-192:2015, *International Electrotechnical Vocabulary (IEV) — Part 192: Dependability*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13306:2017 and in IEC 60050-192:2015, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

asset

<physical> item that has potential or actual value for the organization

[SOURCE: EN 13306:2017, 3.2]

3.2

main area

fundamental part of a management discipline, which represents the more important knowledge and competence to achieve and maintain an excellent status within existing influencing factors

3.3

indicator

quantitative or qualitative measure of a characteristic or a set of characteristics of a phenomenon or performance of activities, according to defined criteria or a given formula or questionnaire

Note 1 to entry: The indicator is a tool for development and implementation of a strategy for monitoring progress towards the goals outlined in the strategy.