

<b>STN</b>	<b>Údržba</b> <b>Kľúčové ukazovatele výkonnosti údržby</b>	<b>STN</b> <b>EN 15341+A1</b>  95 0104
------------	---	---

Maintenance - Maintenance Key Performance Indicators

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/22

Obsahuje: EN 15341:2019+A1:2022

Oznámením tejto normy sa ruší  
STN EN 15341 (95 0104) z októbra 2021

EUROPEAN STANDARD

**EN 15341:2019+A1**

NORME EUROPÉENNE

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  
maintenanceInstandhaltung - 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**

**EN 15341:2019+A1:2022 (E)**

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

## 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.

**EN 15341:2019+A1:2022 (E)****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.

## **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*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**