

ICS 45.060.01

English Version

**Railway applications - Vehicle Maintenance - Guide for  
identification and management of Safety Critical  
Components for railway vehicles**

Applications Ferroviaires - Maintenance des véhicules -  
Guide pour l'identification et le management des  
Composants Critiques de Sécurité pour les véhicules  
ferroviaires

Bahnwendungen - Fahrzeuginstandhaltung -  
Leitfaden zur Identifizierung und dem Management  
von Sicherheitskritischen Komponenten für  
Schienenfahrzeuge

This Technical Report was approved by CEN on 20 September 2021. It has been drawn up by the Technical Committee CEN/TC 256.

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**

| <b>Contents</b>  | <b>Page</b> |
|--|-------------|
| <b>Foreword</b> .....  | <b>3</b>    |
| <b>Introduction</b> .....  | <b>4</b>    |
| <b>1 Scope</b> .....   | <b>5</b>    |
| <b>2 Normative references</b> .....  | <b>5</b>    |
| <b>3 Terms and definitions</b> .....   | <b>5</b>    |
| <b>4 Symbols and abbreviations</b> .....   | <b>6</b>    |
| <b>5 SCCs definition</b> .....   | <b>6</b>    |
| <b>5.1 General</b> .....   | <b>6</b>    |
| <b>5.2 Identification of accidents and consequences related to SCCs definition</b> .....     | <b>7</b>    |
| <b>6 SCCs requirements: actors and vehicles involved</b> .....                               | <b>8</b>    |
| <b>6.1 General</b> .....   | <b>8</b>    |
| <b>6.2 SCCs requirements and actors involved</b> .....                                       | <b>8</b>    |
| <b>6.3 SCCs requirements and their applicability to railway vehicles</b> .....               | <b>9</b>    |
| <b>6.4 Tables of SCCs requirements with actors and vehicles involved</b> .....               | <b>10</b>   |
| <b>7 SCCs management process and identification</b> .....                                    | <b>13</b>   |
| <b>7.1 SCCs management process</b> .....   | <b>13</b>   |
| <b>7.2 SCCs deliverables</b> .....   | <b>18</b>   |
| <b>7.3 Methods for the identification of SCCs</b> .....                                      | <b>19</b>   |
| <b>7.3.1 General</b> .....   | <b>19</b>   |
| <b>7.3.2 Identification of SCCs through a bottom-up method</b> .....                         | <b>20</b>   |
| <b>7.3.3 Identification of SCCs through a top-down method</b> .....                          | <b>24</b>   |
| <b>Annex A (informative) SCCs references capture</b> .....                                   | <b>27</b>   |
| <b>Annex B (informative) Comprehension of SCCs definition</b> .....                          | <b>34</b>   |
| <b>Annex C (informative) Considerations on specific wording of the SCCs definition</b> ..... | <b>39</b>   |
| <b>Annex D (informative) Using statistics of “serious accidents”</b> .....                   | <b>40</b>   |
| <b>Bibliography</b> .....  | <b>42</b>   |

## Foreword

This document (CEN/TR 17696:2021) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

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.

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.

This document is a preview generated by EVS

## Introduction

The following document is focused on the new concept of Safety Critical Component (SCC) introduced in the recent framework of the European legislation.

This document is a preview generated by EVS

## 1 Scope

The objective of this document is to provide an overview of the SCCs requirements captured from the current legislation and the actors involved in their fulfilment.

In addition, this document aims to promote a common understanding of those requirements together with practical arrangements to fulfil them in a proper way and giving guidance for the SCCs identification and management.

The objective of the document is neither to produce an applicable list of SCCs nor to provide for examples of SCCs.

This document is applicable to vehicles only. The definition of “vehicle” is as in Art. 3(21) of the Safety Directive [3].

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **renewal**

any major substitution work on a subsystem or part subsystem which does not change the overall performance of the subsystem

### 3.2

#### **upgrade**

#### **upgrading**

any major modification work on a subsystem or part subsystem which improves the overall performance of the subsystem

### 3.3

#### **refurbishment**

programme of interior/exterior work, other than routine maintenance or repair, undertaken on a railway vehicle to restore or enhance the level of design and performance

### 3.4

#### **engineering change**

change to a railway vehicle, including control software, in the area of design, construction or maintenance which affects, or potentially affects, conformity to applicable requirements