



HTML GUIDE OF THE GENERIC ETCS DRIVER'S HANDBOOK

**1.0.1
10/01/2020**



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MODIFICATION HISTORY

Issue Number Date	Section Number	Modification /Description	Author/Editor
0.1.0 22/11/2019	All	First draft	Ineco
1.0.0 12/12/2019	§2, §4	Amendments by considering OH WG comments	Ineco
1.0.1 10/01/2020	All	Minor editorial changes	ERA

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Notice for use/Disclaimer

This Handbook may serve as the basis for a generic training material and reference guide for drivers being trained to drive under ETCS.

For driver certification purposes, it is recommended that users produce a more specific training manual by omitting from the Handbook any content that is not applicable in a particular on-board unit configuration and complementing the Handbook with information related to the specific rolling stock type on which the on-board unit is installed; the customized version of the Handbook may also be complemented with conditions enforced by relevant company rules on driver's actions involving the ETCS on-board unit.

Users should apply similar customization principles to generate type-specific versions of the Handbook to serve as user's manuals for specific rolling stock types operated by specific railway undertakings in specific areas of use.

In all cases, the users shall bear the full responsibility for any customization of the Handbook to meet any particular need.

The guide provided herewith is intended to facilitate the customization process, yet the Agency cannot be held liable for any adverse side-effect resulting from the omission of applicable content from, or the inclusion of non-harmonized content into, any customized version of the handbook.

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1 INTRODUCTION

1.1 PURPOSE AND SCOPE

The aim of this document is to explain how to install and use the HTML version of the generic ETCS driver's handbook.

1.2 BACKGROUND: THE GENERIC ETCS DRIVER'S HANDBOOK

The generic ETCS driver's handbook has been produced to provide a harmonised handbook on the use of the ETCS on-board equipment by the driver of a train fitted with this system. It has been produced in three languages: English, French and German. Additionally, there are two open source formats available, namely MS Word and HTML.

The generic ETCS driver's handbook includes all the ETCS DMI features, options, configuration parameters, expected system reactions, system messages, degraded situations, etc. from the driver's viewpoint. Information which is not relevant to the driver has been omitted from this document.

The scope of the current version of the ETCS driver's handbook is limited to Baseline 3 ETCS on-board, i.e. B3 Maintenance Release 1 and B3 Release 2, operated in applicable ETCS system versions (i.e. 1.0, 1.1, 2.0 or 2.1). The scope of the harmonised handbook does not include Class B systems even when operated through the ETCS DMI.

The clauses included in the ETCS driver's handbook are based on the following reference documentation:

- System Requirements Specification (i.e. Subset-026, both v3.4.0 [1] and v3.6.0 [2]).
- ETCS Driver Machine Interface (both v3.4.0 [4] and v3.6.0 [5]).
- ERTMS Operational Principles and Rules (Appendix A to the TSI OPE [5]).
- Operational Instructions (Appendix C to the TSI OPE [6]).

1.3 CONTENTS OF THIS GUIDE

This document has been structured in three main sections related to the HTML version of the ETCS driver's handbook:

- Section 2 describes the installation requirements that should be met by electronic devices and explains the installation process of the generic ETCS driver's handbook.
- Section 3 explains the main functionalities implemented in the HTML version that should know the ETCS driver's handbook users.
- Section 4 explains how to preconfigure the HTML version of the handbook in order to spare the need for drivers to select the parameters for customising the ETCS Driver's handbook, i.e. baseline, system version, level, level transitions and DMI screen technology.

2 INSTALLATION GUIDELINES

2.1 INSTALLATION REQUIREMENTS

The electronic device, in which the generic ETCS Driver's Handbook application will be installed, should meet the following requirements:

2.1.1 HARDWARE REQUIREMENTS

- 50MB of free space in the disk of the electronic device to host the application.
- In order to listen to the handbook sounds, the device must have a speaker.
- Display screen with a minimum resolution of 360x640 (wide x high).

2.1.2 SOFTWARE REQUIREMENTS

- Web navigator updated capable of batching HTML5 and JavaScript.
- In order to listen to the handbook sounds, the device must be able to reproduce audio files in MP3 format.
- If the display options are required to be saved inter-session, such as the option of showing/hiding the clauses name, it is necessary that the web navigator accepts the "Storage" object of JavaScript in local mode.

2.2 HTML HANDBOOK INSTALLATION

This section describes the steps to follow for a third party to carry out the installation of the HTML application on electronic devices.

Each application's version is delivered in a compressed file with ZIP format. There is a "ZIP" file per language, i.e. 3 files: English, French and German versions. Users can install one or several versions of the application on their devices.

To install an application version, it is necessary to extract the corresponding ZIP file, then the content will be copied to the device where the user wants to display the application. The first level of the directory structure of that content consists of the following elements:

- "*content*" directory: where the files needed for the operation of the handbook are located: html pages, style sheets, scripts, images and data.
- "*index.html*" file: It is the main page of the application and it should be opened with a web navigator so that the user can visualize the handbook. It is recommendable to create a direct link to this file in order to facilitate the access to the final user, either within the navigator in a bookmark or a shortcut where the file could be found easily, such as the desktop.

It is important to maintain the directory structure as it is provided, otherwise the application will cease to work.

Note: If the content of the manual is wanted to be pre-customised (see section 3 in this document), it is recommended to perform the customisation in a computer before copying the application in the device.

In some cases, depending on the devices, it is necessary to carry out additional steps for the correct installation of the handbook. If the installation has not been performed correctly, follow the steps mentioned below:

- In some Android devices, after installing the handbook, it is necessary to open the Chrome browser and to write “file:///sdcard/” to visualize it. Then, when the directory structure of the device is displayed, browse to the installation directory of the handbook and press on “index.html”. In this case, it is recommended to save the home page as favourite bookmark to access directly the next time the handbook is opened.
- In IOS devices (iPhone/iPad), it is necessary to follow the following steps for the installation:
 - Copy the unzipped files from the application to the device using iTunes.
 - From the device, move those files inside the “Documents” application (or similar).
 - From the “Documents” application (or similar), open the “index.html” file.

3 USER GUIDE

3.1 HOME SCREEN

It is the web page that opens when the application starts. In addition to a decorative graphics, it consists of a Copyright Notice and a Notice for use/Disclaimer which must be agreed by the user to continue.

At the bottom of the home screen is available the button “I agree” that must be clicked by the user.

3.2 CONFIGURE YOUR VALUES

If the application has been pre-configured before the installation by an administrator (see section 3 of this document), this configuration screen will not be displayed and the application will automatically go to the index of the handbook. Otherwise, an attribute selection form will be displayed to filter handbook clauses.

By pressing the link of the edition, which is in the right of each attribute, a modal window will be opened to select the corresponding values to each attribute. All require a selection to be made except “Transition level”.

Once the values have been selected, the user must click “Go” to apply the filter and access to the following screen.

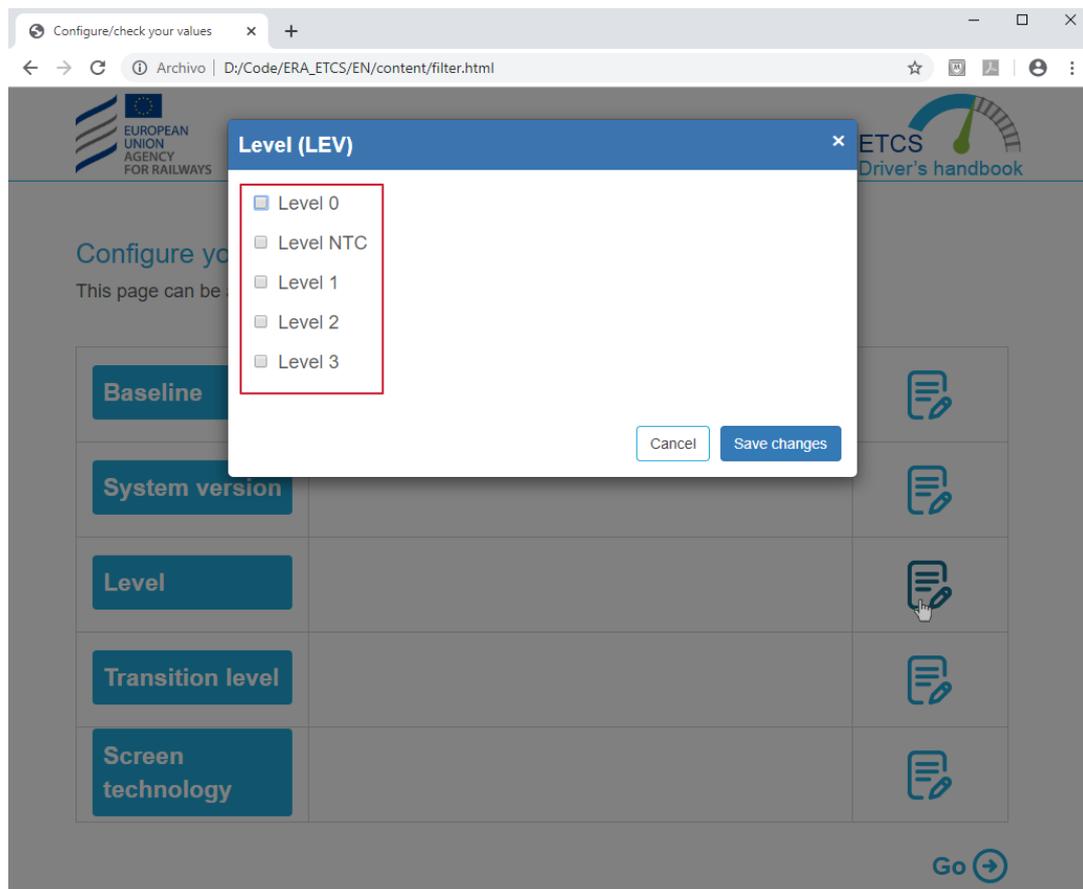


Figure 1. Configure your values. Highlighted in red is an example of the list of values in which the selection applies, in this case corresponding to the attribute Level (LEV).

3.3 INDEX OF THE HANDBOOK

The index of the handbook is the page that displays the contents of the ETCS Driver’s Handbook. By default, it is collapsed showing only the first level topics. Pressing them, the page of the content of the selected theme is accessed.

If a topic consists of a second level of subtopics, a “+” icon is displayed on the right. Pressing it, a menu with subtopics will be deployed below the main topic.

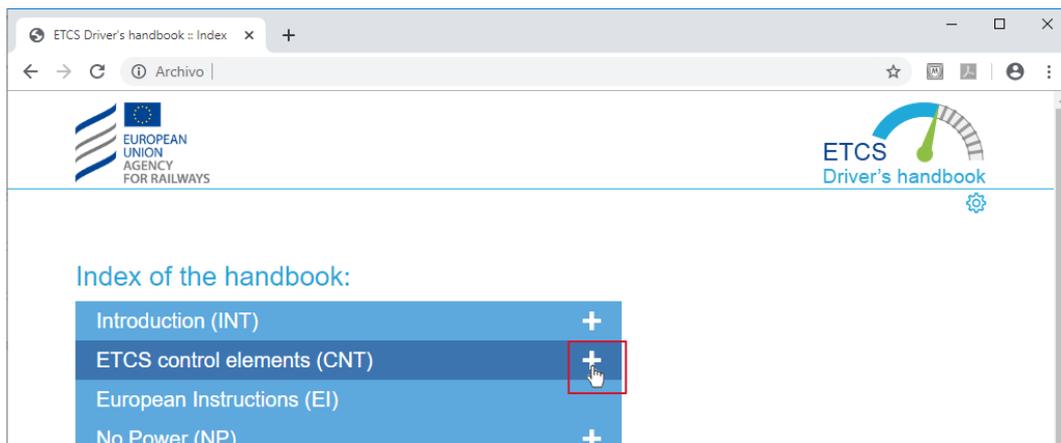


Figure 2. Index of the handbook. Highlighted in red is the icon to press to expand the chapter into its subtopics.

The topic content page is accessed by pressing each second level subtopics, focusing on the selected second level subtopic on the screen.

If a subtopic of second level consists of third level subtopics, a “+” icon is displayed on its right. Pressing it, a menu with subtopics will be deployed. The topic content page is accessed by pressing in these last ones, this will show the selected third level subtopic on the screen.

Once a subtopic has been expanded, the “+” icon changes by “-” icon, the expanded subtopic is collapsed again pressing on the “-” icon.

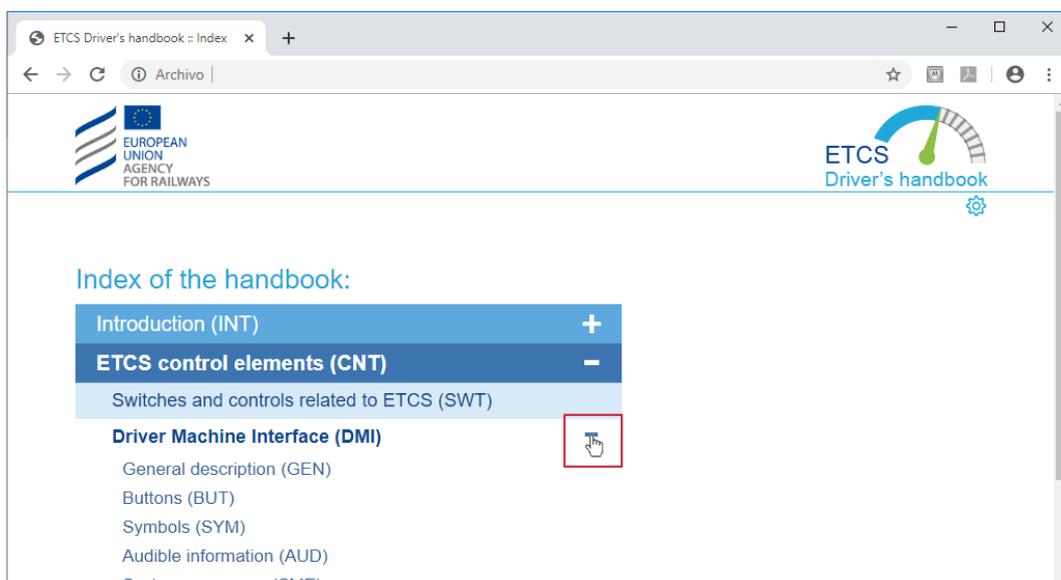


Figure 3. Index of the handbook. Highlighted in red is the icon to press to collapse the subtopics of the chapter.

3.4 CONTENT PAGES

These pages present the clauses of the ETCS Driver’s Handbook, with the filtered clauses corresponding to the selected index element.

In addition to these contents, at the top of the screen and below the header with the application logos, the following icons with links are located:

- “Home” icon: pressing it returns to the topic index page.

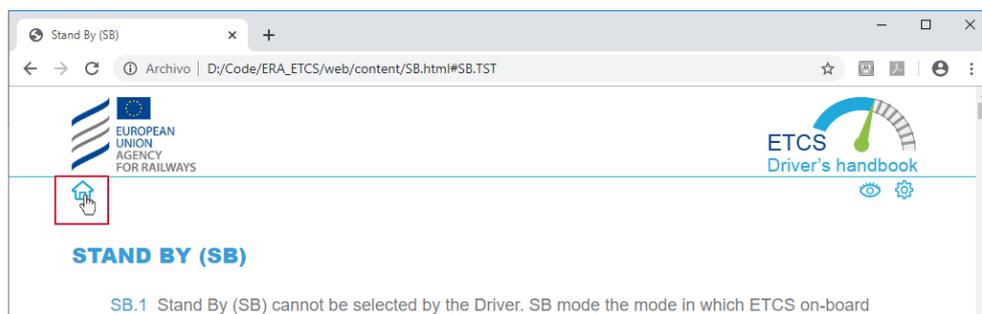


Figure 4. Content page. Highlighted in red is the “home” icon to return to the topic index page.

- “Eye” icon: the clause codes are shown and hidden by successively pressing the icon.

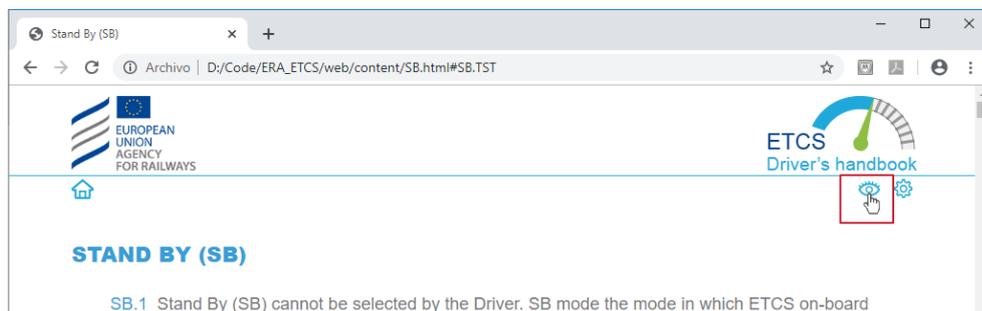


Figure 5. Content page. Highlighted in red is the “eye” icon to show/hide the clauses code.

- “Settings” icon: pressing it, if the application has not been preconfigured before installation by an administrator, the attributes configuration page is returned in order to inspect and/or change the filtering values of the clauses of the manual.

Otherwise, if the application has been preconfigured, the access to the screen for displaying the filter values is explained in the section 2.5.

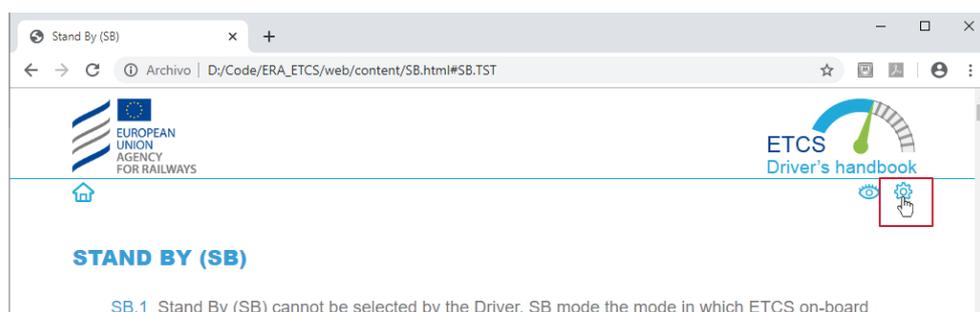


Figure 6. Content page. Highlighted in red is the “settings” icon to access to the page for displaying/modifying clause filter values.

3.5 CHECK YOUR VALUES

In this page, which can be accessed by pressing on the "Settings" icon, the values of each attribute are visualized, by which the filtering of the clauses of the manual is performed.

The values shown correspond to a pre-configuration performed by their administrator and they cannot be modified from within the application.

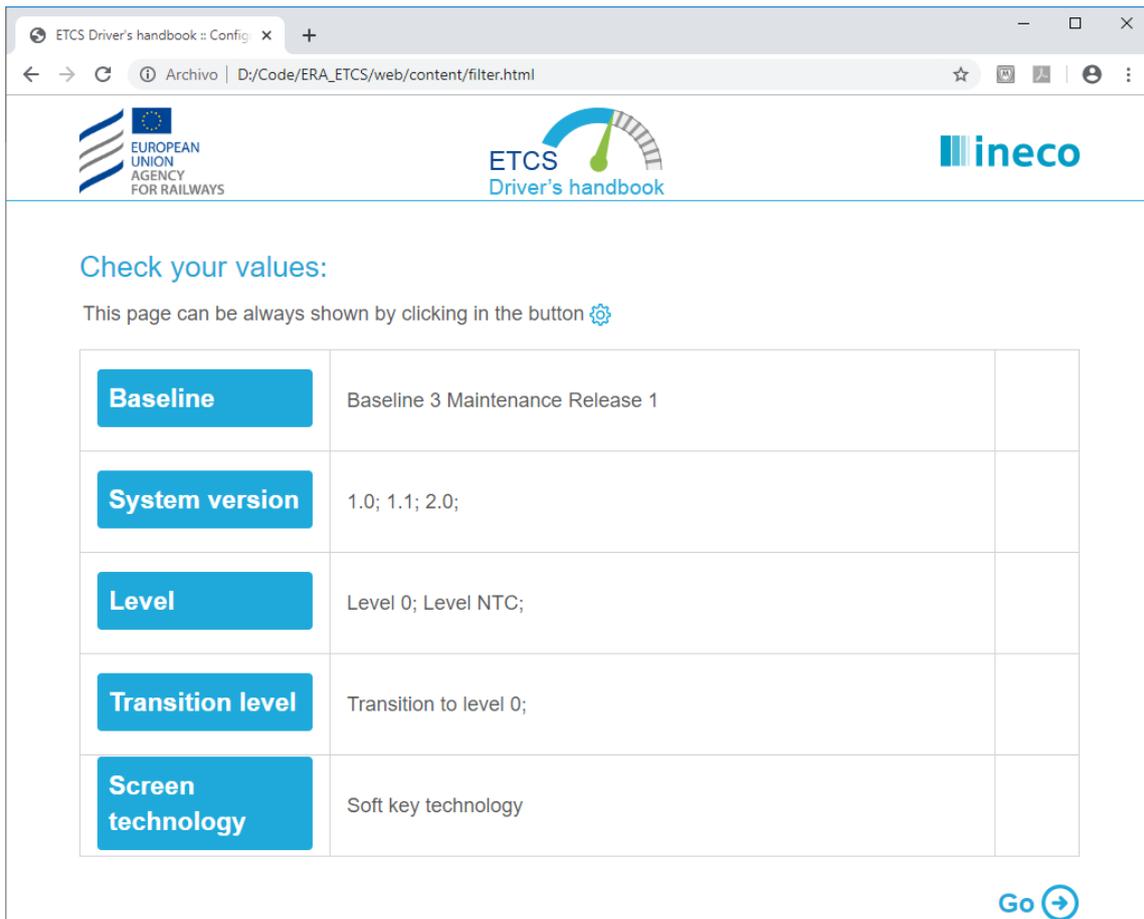


Figure 7. Check your values. Query screen of the preconfigured parameters.

4 PRE-CONFIGURATION OF THE HANDBOOK

All the options to filter the content of the ETCS Driver's handbook, which the final user will visualise, are located in the "content\js\data.js" file. It consists in a file of plain text and it can be opened with any text editor. Within this file the following options can be edited:

- Filtered by clause attributes.
- Filtered by elements in the table of content.
- Adding a sentence in the header of the handbook pages.

The editing of this file should be performed by personnel competent with the JavaScript language. An incorrect modification could cause errors that prevents the application execution. It is recommended that

a backup copy of the file is made before it is edited. This task is under the full responsibility of the entity which undertakes it.

4.1 FILTERED BY CLAUSES ATTRIBUTES

The editing of this filter is for the final user to visualize only those clauses of the handbook that match the requirements of the attributes entered. If it is left in blank, by default, every time the final user executes the application, the final user must introduce the values of the attributes in the visual interface; these attributes could be changed whenever the final user wants. Otherwise, if the values of this filter are edited, the final user cannot change them from within the application.

In order to customise this filter, it is necessary to edit the “etcs.dataOptions” object, which is composed of the following proprieties or attributes:

- *baseline: ""*,

Baseline (BSL). It admits a single value between these two:

- **3M1** (Baseline 3 Maintenance Release 1)
- **32** (Baseline 3 Release 2)

Example: *baseline: “3M1”*,

- *version: ""*,

System version (VER). It admits one or more values between these four, separated by a hyphen:

- **10** (1.0)
- **11** (1.1)
- **20** (2.0)
- **21** (2.1)

Example: *version: “10-20-21”*,

- *level: ""*,

Level (LEV). It admits one or more values between these five, separated by a hyphen:

- **0** (Level 0)
- **N** (Level NTC)
- **1** (Level 1)
- **2** (Level 2)
- **3** (Level 3)

Example: *level: “N-2”*,

- *transition: ""*,

Level Transition (LTR). It admits one or more values between these five, separated by a hyphen:

- **0** (Transition to level 0)
- **N** (Transition to level NTC)
- **1** (Transition to level 1)

- **2** (Transition to level 2)
- **3** (Transition to level 3)

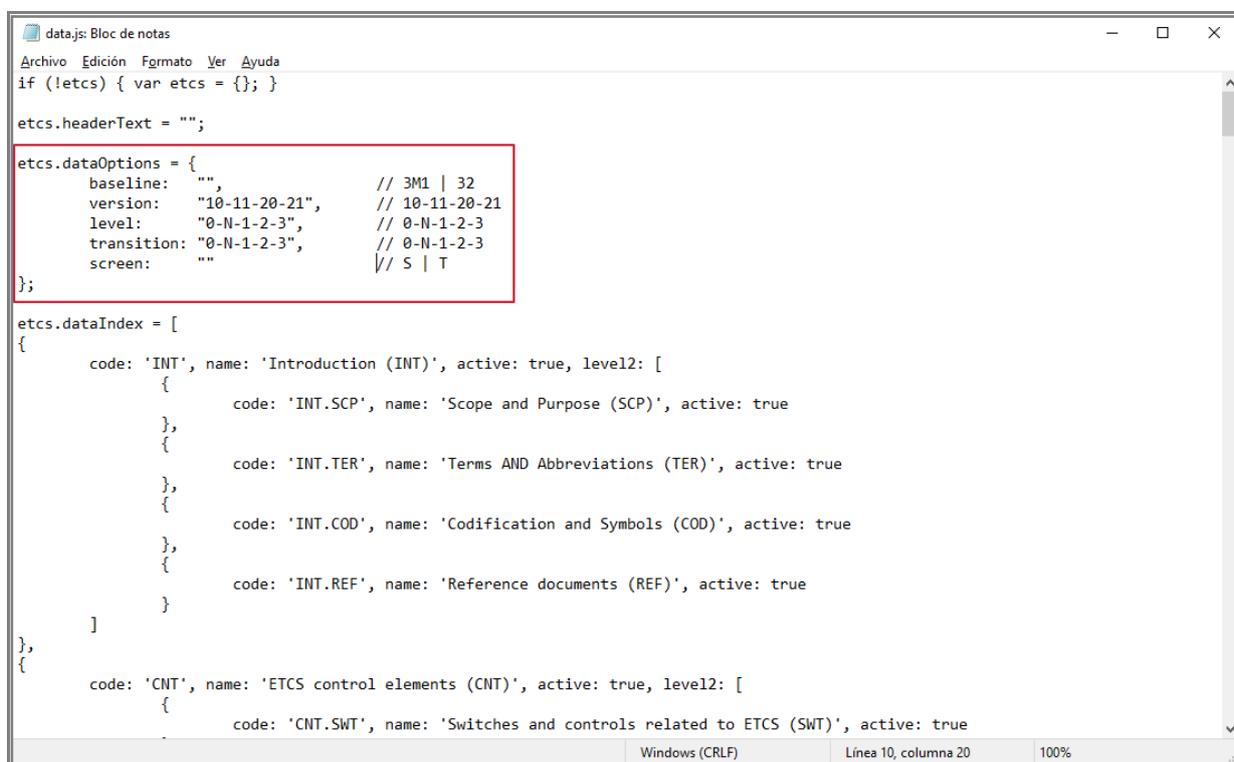
Example: *transition: "3M1"*,

- *screen: ""*

Screen technology (TEC). It admits a single value between these two:

- **T** (Touch screen technology)
- **S** (Soft key technology)

Example: *screen: "S"*



```

data.js: Bloc de notas
Archivo Edición Formato Ver Ayuda
if (!etcs) { var etcs = {}; }

etcs.headerText = "";

etcs.dataOptions = {
  baseline: "",           // 3M1 | 32
  version:  "10-11-20-21", // 10-11-20-21
  level:    "0-N-1-2-3",   // 0-N-1-2-3
  transition: "0-N-1-2-3", // 0-N-1-2-3
  screen:   ""            // S | T
};

etcs.dataIndex = [
{
  code: 'INT', name: 'Introduction (INT)', active: true, level2: [
    {
      code: 'INT.SCP', name: 'Scope and Purpose (SCP)', active: true
    },
    {
      code: 'INT.TER', name: 'Terms AND Abbreviations (TER)', active: true
    },
    {
      code: 'INT.COD', name: 'Codification and Symbols (COD)', active: true
    },
    {
      code: 'INT.REF', name: 'Reference documents (REF)', active: true
    }
  ]
},
{
  code: 'CNT', name: 'ETCS control elements (CNT)', active: true, level2: [
    {
      code: 'CNT.SWT', name: 'Switches and controls related to ETCS (SWT)', active: true
    }
  ]
}
]

```

Figure 8. Filtered my clauses attributes: highlighted in red is the properties to edit.

4.2 FILTERED BY ELEMENTS OF THE TABLE OF CONTENTS

The purpose of this filter is to hide from the final user certain points of the table of content, regardless of the clauses it includes.

In order to customise this filter, it is necessary to edit the “etcs.dataIndex” array. Each element of this array corresponds to an element of the table of contents of the manual (themes, subtopics, chapters), maintaining the same order. The only editable property of this array is the “active” element which has two possible values:

- *active: true*

Default option. Filtering by table of content is not performed.

- **active: false**

The element of the corresponding table of content is hidden.

For example, to hide to the user the INT.REF point, the line

code: 'INT.REF', name: 'Reference documents (REF)', active: true

should be modified by

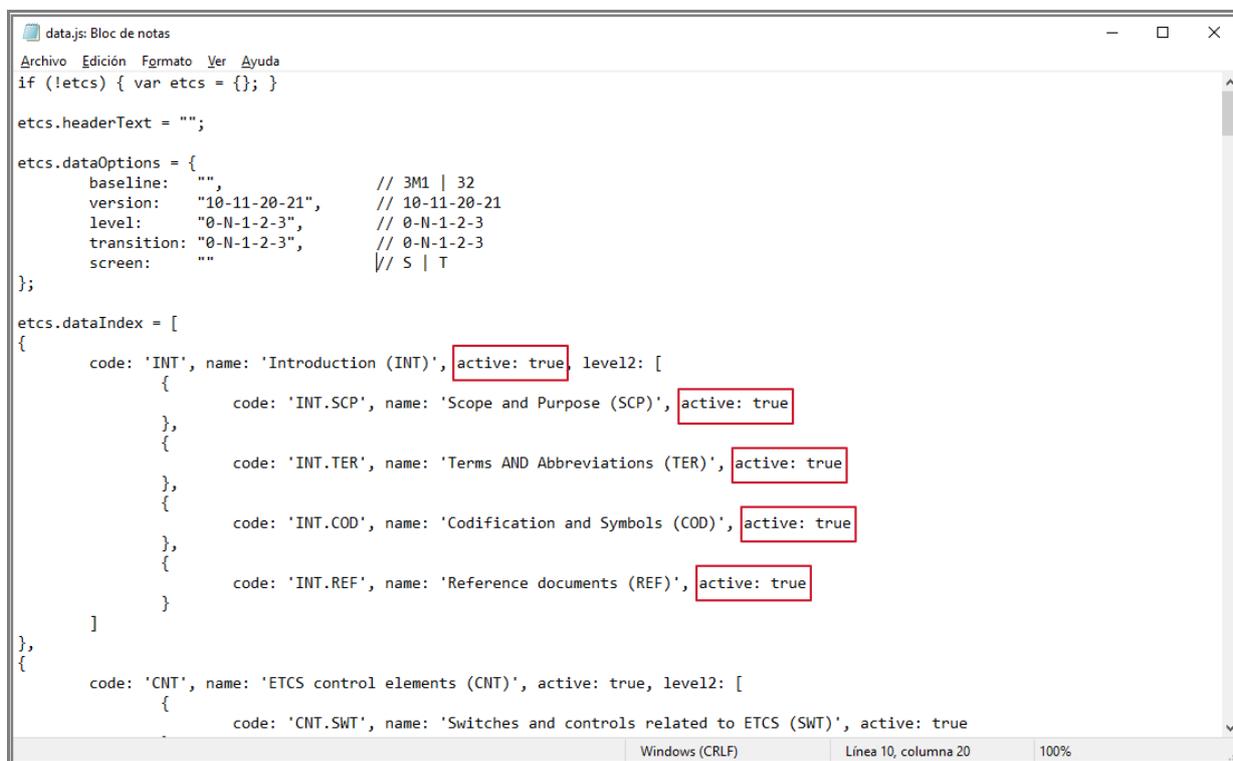
code: 'INT.REF', name: 'Reference documents (REF)', active: false

For example, to hide to the user the full INT.REF, the line

code: 'INT', name: 'Introduction (INT)', active: true, level2:[

should be modified by

code: 'INT', name: 'Introduction (INT)', active: false, level2:[



```

data.js: Bloc de notas
Archivo Edición Formato Ver Ayuda
if (!etcs) { var etcs = {}; }

etcs.headerText = "";

etcs.dataOptions = {
  baseline: "", // 3M1 | 32
  version: "10-11-20-21", // 10-11-20-21
  level: "0-N-1-2-3", // 0-N-1-2-3
  transition: "0-N-1-2-3", // 0-N-1-2-3
  screen: "" // S | T
};

etcs.dataIndex = [
{
  code: 'INT', name: 'Introduction (INT)', active: true, level2: [
    {
      code: 'INT.SCP', name: 'Scope and Purpose (SCP)', active: true
    },
    {
      code: 'INT.TER', name: 'Terms AND Abbreviations (TER)', active: true
    },
    {
      code: 'INT.COD', name: 'Codification and Symbols (COD)', active: true
    },
    {
      code: 'INT.REF', name: 'Reference documents (REF)', active: true
    }
  ]
},
{
  code: 'CNT', name: 'ETCS control elements (CNT)', active: true, level2: [
    {
      code: 'CNT.SWT', name: 'Switches and controls related to ETCS (SWT)', active: true
    }
  ]
}
]

```

Figure 9. Filtered by elements of the table of contents. Highlighted in red is the properties to edit.

4.3 ADDING A SENTENCE IN THE HEADER OF THE HANDBOOK PAGES

There is the possibility to include a short customized sentence in the header of all handbook pages.

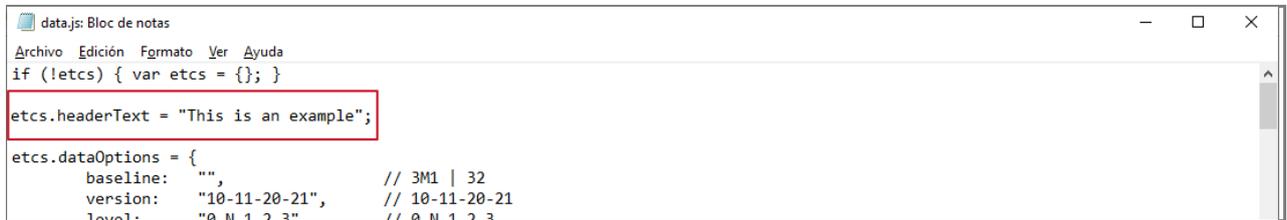
To do that, the “etcs.headerText” text variable, which is in the beginning of the configuration file, must be edited adding the short sentence to be displayed between the two quotation marks. If that sentence contains, in turn, two quotation marks, it is necessary to write the \ character (backslash) before the quotations marks.

For example, to show the text *This is an example of “header”*:

etcs.headerText = " This is an example of \"header\"";

For example, to show the *This is an example* text:

```
etcs.headerText = "This is an example";
```



```
data.js: Bloc de notas
Archivo Edición Formato Ver Ayuda
if (etcs) { var etcs = {}; }
etcs.headerText = "This is an example";
etcs.dataOptions = {
  baseline: "", // 3M1 | 32
  version: "10-11-20-21", // 10-11-20-21
  level: "0.N.1.2.3" // 0.N.1.2.3
```

Figure 10. Customization of a common text in the header of all handbook pages.

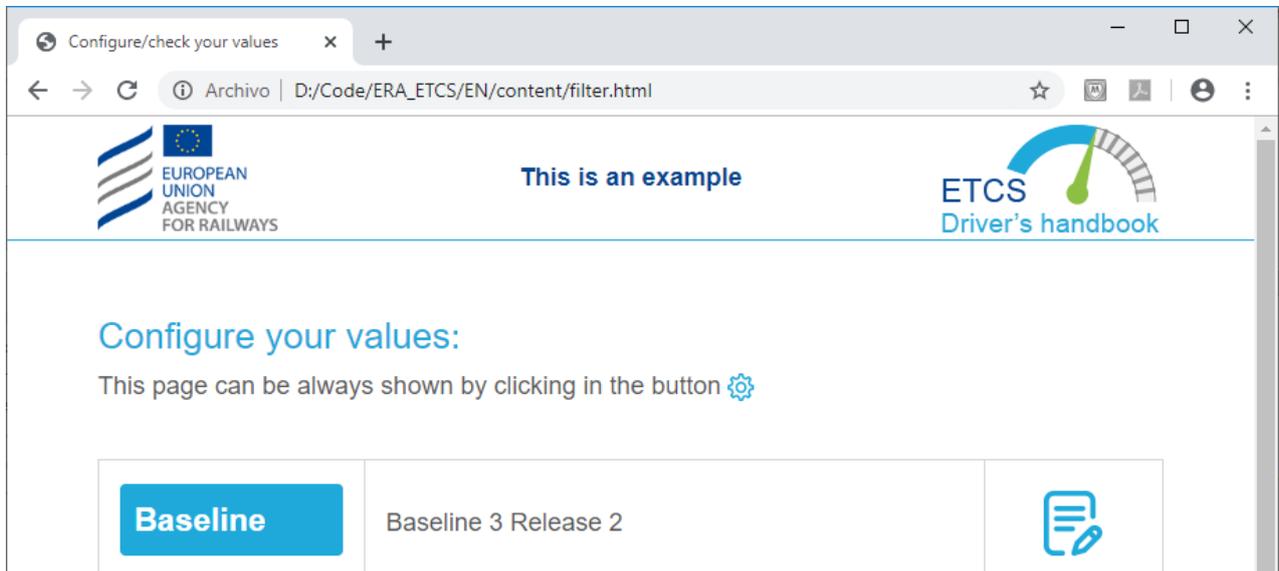


Figure 11. Example of displaying custom text in the header of all pages.