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A reference

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TITLE

Abstract

This document outlines the preparation of EDMS generic documents using LuaL-atex based on the original EDMS Word template ([EDMS 2375564](#)). This template file is designed to assist authors in producing EDMS reports and facilitate collaborative writing on such documents. The usage of this template is optional and is provided merely for convenience for those who find it useful. The .zip files for this template are also available in EDMS: ([EDMS 3180095](#)). This file is maintained by Patrick Krkotić (patrick.krkotic@cern.ch) and Martin Bammer (martin.bammer@cern.ch). Please contact them for potential feature submissions or requests.



This template is intended for generic engineering documents only. Its use is subject to some recommendations. It must not be used for documents that are supporting specific processes such as Engineering Change Requests (ECR). Please see [all details](#) on the CERN ATS Quality Service website.

DOCUMENT PREPARED BY:

[Author 1 Name – Group]
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DOCUMENT TO BE CHECKED BY:

TBD

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DOCUMENT SENT FOR INFORMATION TO:

OPTIONAL: I am a recipient of information

SUMMARY OF THE ACTIONS TO BE UNDERTAKEN:

OPTIONAL: I am a summary



Contents

1 Introduction	6
2 Data Storage and Management in EDMS	6
2.1 Titlepage	6
3 Environments	6
3.1 Equations	6
3.2 Summary Box	6
3.3 Lists	7
3.3.1 Numbered List	7
3.3.2 Bullet Point List	7
3.3.3 Descriptions and Definitions	7
3.4 Custom Commands	7
3.4.1 Glasses	7
3.4.2 Custom Footnote	8
3.4.3 Degree Celsius in text	8
4 Styling	8
4.1 Table of contents	8
4.2 Glossary	8
4.3 Figures and Tables	9
5 Referencing Bibliography	10
5.1 Citing general literature: Papers, Books, Bookchapters, Conference articles,	10
5.2 Citing Images and Websites	10
A Appendix	12
A.1 Appendix section title	12



List of Figures

1	Figure caption of Figure 1	9
2	Subfigures caption of Figure 2	9
3	"Wolfgang Pauli on a boat on Como Lake"	10



List of Tables

1	Table caption of Table 1	9
---	------------------------------------	---



Glossary

HTML Hypertext Markup Language



1 Introduction

Welcome to the LaTeX template designed to help you create high-quality documents destined to be stored in [EDMS](#). This guide will review its main features and demonstrate how to prepare documents for quick uploading and publication. Using LaTeX facilitates collaborative writing, making the process more efficient. The template replicates the fonts and styles of the original Word document and is based on LuaLatex. When customising the template, be aware that some packages may be incompatible with the *LuaLatex* environment.

Please [see all details](#) on the CERN ATS Quality Service website.

2 Data Storage and Management in EDMS

To ensure proper documentation and version control, it is recommended to not only upload the generated PDF but also download the entire project from Overleaf. The compressed file format names Source can be downloaded directly over the Menu. For more information on exporting your work from Overleaf, we refer to the official link: [Exporting your work from Overleaf](#).

Once you have downloaded the file, please upload it into the [EDMS](#) for secure storage and easy access. This process helps maintain consistency and facilitates collaboration within the team.

2.1 Titlepage

The title page includes essential details to ensure consistency and ease of updates, such as reference numbers, validity status, EDMS numbers, and revision numbers. The commands for modifying the project title, main title, author list, and the lists of those who checked and approved the document are specified in the *input.tex* file. Only the abstract should be written in the *abstract.tex* file.

3 Environments

3.1 Equations

Equations are centred and automatically numbered correctly in sequential order:

Let $G = \{x \in \mathbb{R}^2 : |x| < 3\}$ and denoted by: $x^0 = (1, 1)$; consider the function:

$$f(x) = \begin{cases} e^{|x|} & \text{if } |x - x^0| \leq \frac{1}{2} \\ 0 & \text{if } |x - x^0| > \frac{1}{2} \end{cases} \quad (1)$$

The function f in Equation (1) has bounded support, we can take $A = \{x \in \mathbb{R}^2 : |x - x^0| \leq 1/2 + \epsilon\}$ for all $\epsilon \in]0; 5/2 - \sqrt{2}[$.

3.2 Summary Box

Summary

The summary box is useful to present information in a concise way.

Definition

This is a definition.

Important

This is important.

For Mr. and Mrs. Cleverly 

This is something very, very clever.

3.3 Lists

Several lists can be defined.

3.3.1 Numbered List

1. First numbered item
 - (a) First indented numbered item
 - (b) Second indented numbered item
 - i. First second-level indented numbered item
2. Second numbered item
3. Third numbered item

3.3.2 Bullet Point List

- First bullet point item
 - First indented bullet point item
 - Second indented bullet point item
 - * First second-level indented bullet point item
- Second bullet point item
- Third bullet point item

3.3.3 Descriptions and Definitions


Name Description

Word Definition

Comment Elaboration

3.4 Custom Commands

3.4.1 Glasses

If something written is considered particularly insightful or clever, it can be emphasized with the following symbol: .

The symbol can be generated by using the following custom command:

`\glasses`

3.4.2 Custom Footnote

In order to make the LaTeX footnotes fit the custom page margins of this template a new footnote command with customization was designed¹.

The custom command for the proper footnote is²:

```
\fn{text here}
```

Also, you can reference footnotes with the standard latex ref-command by giving them labels like this:

```
\fn{text here \label{fn1}}
```

Here, we reference a footnote:

```
\footref{fn1}
```

The result looks like this: You can read more about why we defined this custom command in footnote ¹ and footnote ².

The same principle is applied for footnotes in tables. For these the custom command:

```
\tablefn{text here}
```

has been implemented. A tablefootnote can be seen in table 1.

3.4.3 Degree Celsius in text

A rather simple but useful command was done to display the degree celsius symbol ($^{\circ}\text{C}$) in full text, to avoid using math mode all the time. Just use:

```
\celsius
```

4 Styling

4.1 Table of contents

The table of contents is automatically generated when a section, subsection or subsubsection is defined.

4.2 Glossary

The Glossary package allows to create a list of abbreviations in the document. In addition, it can be expanded to be used for an index of symbols if needed. Here are the steps for using the Glossary package to create a list of abbreviations as intended for general documents.

To define an acronym, the following command should be used in the *glossary.tex* file:

```
\newacronym{html}{HTML}{Hypertext Markup Language}
```

where:

- A new acronym is defined by `\newacronym`
- `{html}` serves as the label or identifier for the acronym and is used internally to reference this specific acronym
- `{HTML}` is the abbreviated form that will be displayed in the text when the acronym is referenced

¹ This is a custom footnote with nice line spacing within this template's margins and proper line breaks. The footnote number is also shifted a bit to the left to make it extra distinguished.

² Starting from the second line, all subsequent lines of text within a footnote are indented to make sure the beginning of the next footnote is easily recognisable, should multiple footnotes be present.

- {Hypertext Markup Language} is the full form and is shown the first time the acronym is referenced

To define an acronym in the text, the command `\gls{identifier}` should be used. This ensures the acronym is properly defined and appears correctly in the document. The full form will be displayed the first time the acronym is referenced, e.g., Hypertext Markup Language (HTML).

4.3 Figures and Tables

In LaTeX, figures are inserted using the `'figure'` environment, which includes a caption and a unique label for referencing. The same approach is used for tables. Figure and table captions are formatted as shown in Figure 1 and Table 1. Additionally, subfigures can be defined and referenced, such as shown in Figure 2 for Figure 2a, Figure 2b, and Figure 2c.

Table 1: Table caption for example table.

Module	ID [mm]	Convolutions	Height [mm]	Pitch [mm]
VMBGA	212.7	10-17	9.5	6.172
VMZAR	196.0	6-17	8.5	6.172
VMLGC ¹	212.7	29	10	6.172

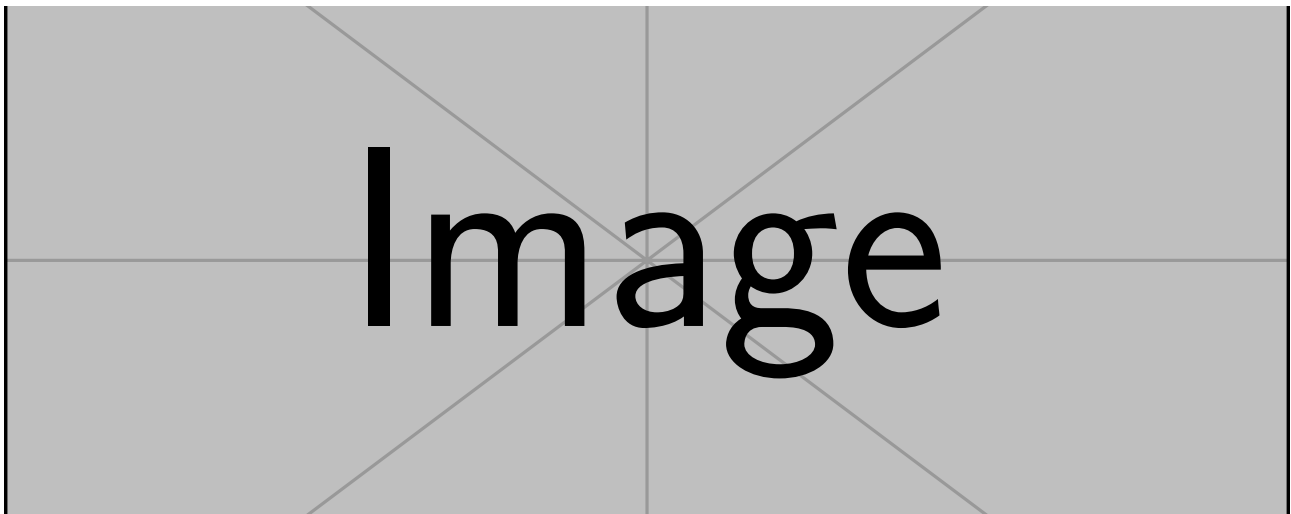
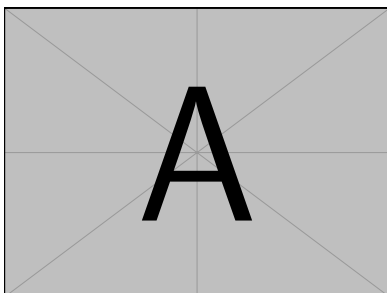
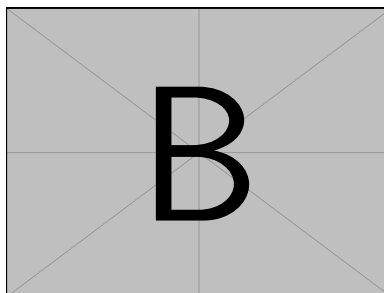


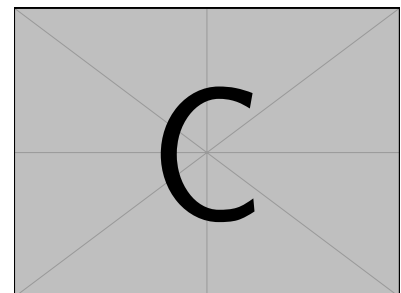
Figure 1: Figure caption for example figure of full linewidth.



(a) example a



(b) example b



(c) example c

Figure 2: Figure caption for example with three subfigures.

¹ this is a footnote in a table

5 Referencing Bibliography

5.1 Citing general literature: Papers, Books, Bookchapters, Conference articles, ...

For Mr. and Mrs. Cleverly:

In 1905 Albert Einstein published a series of papers [1–4], which revolutionized the way humanity sees physics. For his papers, he often referenced the works of *James Clerk Maxwell*, and so do we by referencing one of his books [5]. We can of course also cite only a single chapter of a book, by using the correct literature type. Here we cite a chapter of Newton's masterpiece *Philosophiæ Naturalis Principia Mathematica* [6].

This is a conference article from IPAC 2012 [7] and this is an EDMS document [8]. In *DIN EN ISO 6892-1* [9] is the standardised procedure for the tensile test of metallic materials at room temperature.

5.2 Citing Images and Websites

Images can be cited by either using the literature source of the paper or book, where the image/graph was published, or in the case of portraits and other standalone images, there is usually a literature source for just the image, which has to be used. An example of the latter can be seen in the "portrait" below.



Figure 3: "Wolfgang Pauli on a boat on Como Lake" [10] (Lake Como Conference 1927); From left to right : Wolfgang Pauli, Werner Heisenberg and Enrico Fermi

This image of the three gentlemen can be found on the *CERN Document Server* [11].

References

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A Appendix

A.1 Appendix section title

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.