Instructions for authors

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1. Introduction

This document is intended to guide contributors when preparing submissions for 25th International Conference on Engineering Design (ICED25). We kindly ask you to follow the enclosed instructions carefully. The electronic proceedings will be prepared using Microsoft Word. It is therefore critical for us to receive properly formatted papers based on the template available for download here. This template is for both the first and camera-ready submissions. The first submission of the papers (prior to the reviews) must be uploaded as a PDF file only, whereas the camera-ready papers should be uploaded as both PDF and DOCX files.

Please delete all comments within the manuscript before submission. All tracked changes in the document must be accepted or rejected before the submission. The submitted paper should also not contain any markup.

Note that the papers should be submitted exclusively using the ConfTool conference management system as instructed on the conference website. During the first step of the ConfTool submission procedure, the authors will be asked to submit an abstract (max 900 characters) and include between three and five keywords. A minimum of three keywords must be selected from the predefined list and up to two may be of your choice.

In order to produce conference proceedings of a professional and consistent quality, the template is protected and cannot be modified. If the document is based on another template or if this template is changed, the paper will be returned to the authors for correction and reformatting.

2. Paper format

The page size should be A4 (210 mm or 8.27-inch x 297 mm or 11.69-inch) with margins as specified: 25 mm left, 25 mm right, 25 mm top, and 32 mm bottom (this will give a text area of 160 mm width and 240 mm height). **The length of the paper is limited to 10 (ten) pages, with the reference list included.**

No additional pages will be accepted. Custom headers or footers are not allowed. Please do not add page numbers.

3. Metadata

Replace the 'Enter paper title here' placeholder with the title of the paper. **Do not insert author details, keywords or abstract anywhere in the paper.** These metadata will be added to the designated placeholder during the proceedings typesetting process (do not edit or delete the metadata placeholder). We advise authors to follow the instructions provided within ConfTool and ensure that multiple instances (for example names and institutions of authors contributing to more than one paper) are written in the same way for all occurrences.

4. Formatting requirements

When formatting your paper, please use the predefined styles. This "Instructions for authors" document was prepared using the template and can be used as an example. The overview of properties for each style is available in Appendix B of this document.

4.1. Title

The title of the paper must be written manually, at the top of the first page. The title should be in "Title" style, written in sentence case, and must not end in a full stop.

4.2. Headings

All headings should be written in sentence case. First level headings should be in "Heading1" style, second level headings should be in "Heading2" style, and third level headings should be in "Heading3" style. These three predefined heading styles are automatically numbered. Please do not use headings levels four or lower.
Unnumbered headings (e.g. Acknowledgement, References and Appendix headings) should be in "Unnumbered heading" style. Headings must not end in a full stop.

4.3. Main text

Main text should be in "Normal" style. Please do not use blank lines between paragraphs of main text. For highlighting characters in **bold**, please use the "Strong" character style. For *italic*, use the "Emphasis" style, and for ***bold and italic*** use "Intense Emphasis".
SI units should be used throughout the paper (e.g. 100 mm, 10 kN, 30 N/mm2).

4.4. Lists

Three list styles have been predefined in the template: bulleted list, numbered list and lettered list. It is suggested not to use more than three list levels.

4.4.1. Bulleted lists

- Bulleted (unnumbered) lists should use bullets as shown here.
- Use the style "Bulleted list" for bulleted lists.
- First level
  - Second level
    - Third level

4.4.2. Numbered lists

1. Numbered lists should start with an ordinal number as shown here.
2. Use the style "Numbered list" for numbered lists with automatic numbering.
3. First level
   a. Second level
      - Third level

4.4.3. Lettered lists

a) Lettered lists use lower case letters in an alphabetic order.
b) Use the style "Lettered list" for automatic lettered lists.
c) First level
   1) Second level
      – Third level

4.5. Tables

Table captions must be placed above the table in "Table caption" style and may not end in a full stop. Within a caption, use soft returns only (i.e. manual line breaks, "Shift-Enter").

Tables should be centred on the page, whereas the text inside the table cells can be left-aligned (style: "Table text left"), right-aligned (style: "Table text right") or centred (style: "Table text centre"). It is recommended that the tables do not spread over multiple pages. Tables should be cited within the main text before their appearance in the paper. An example of using tables and table captions can be seen below (Table 1). For greater flexibility, a table can be created in a separate document and then copied into the template.

Table 1. Table captions must be place above tables

The default table header is formatted in bold font.		
Table text left	Table text centre	Table text right
Use character style "Strong" **to make table text bold**, character style "Emphasis" to make table text italic, and character style "Intense Emphasis" ***to make table text bold and italic.***		

If a text paragraph follows the table, please leave one blank line between the table and the paragraph. Blank lines are not necessary in cases where the table is followed by a heading, figure, or another table.

4.6. Figures

Figures should be in line with text and centred on the page using the "Figure" style. Please do not place text boxes over the figures. It is strongly recommended to insert the figures into the document from an external file using the "Insert pictures" menu option. Inserted figures should be of the highest possible quality. Additionally, turn off image compression in Word to retain the highest possible image quality. Please avoid insertion of graphical objects as figures.

Figures should be cited within the main text before their appearance in the paper. An example of inserting figures and figure captions can be seen below (Figure 1).

Figure 1. Figure captions must be placed below figures

Figure captions must be placed below the figure in "Figure caption" style. Within a caption, use soft returns only (i.e. manual line breaks, "Shift-Enter"). Figure captions may not end in a full stop.

4.7. Equations

Equations should be left aligned with 1.27 cm left indentation and contain an equation number at the right margin in "Equation" style. Use tab key to move from the equation to the equation number.

Equation numbers must be entered manually. Equations should be cited within the main text before their appearance in the paper. An example of using equations can be seen below (Equation 1).

$$x^2 y^2 + Ax_2 - 2Bxy = 0 \tag{1}$$

Subscript (x_2) and superscript (x^2) characters within the text can be added using the corresponding "Subscript" and "Superscript" styles.

4.8. Direct quotes

Reporting of the exact words of an author or speaker (direct quotes) must be placed inside quotation marks and formatted using the "Quote" style. For example:

> *"Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat."*

When used in-text, the direct quotes may stay in "Normal" paragraph style and formatted using the "Emphasis" character style, for example: *"Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur"*.

4.9. Footnotes

Please avoid using footnotes. However, if footnotes are placed[1], the footnote text must be formatted[2] using the "Footnote Text" style.

Acknowledgement

Acknowledgement(s) (if any) should be placed before references, with the title in "Unnumbered heading" style (without numeration).

References

Citations to published work throughout the paper should follow the **APA (7th edition) citation style**, which is widely supported by numerous popular citation management software, including but not limited to EndNote, Mendeley, Zotero, Citavi, etc.

For in-text references, when paraphrasing a single author, include the author's last name and the year of publication in parentheses, e.g., **(Smith, 2022)**. For two authors, use both authors' last names separated by an ampersand (&) and the year, e.g., **(Smith & Jones, 2023)**. When referencing three or more authors, use the first author's last name followed by "et al." and the year, e.g., **(Smith et al., 2024)**. For direct quotes, also include the page number, e.g., **(Smith et al., 2024, p. 15)**.

When the author(s) are mentioned within the text, include the year of publication in parentheses immediately after the author's name, e.g., "*Smith (2022) suggests...*", "*Smith and Jones (2023) argue...*", or "*Smith et al. (2024) found...*".

The reference list should be formatted using the "References" style. The references heading should be in "Unnumbered heading" style (without numeration). Individual references must be formatted depending on the type of publication as instructed below (with examples). For more examples, please visit https://apastyle.apa.org/style-grammar-guidelines/references/examples.

Journal papers: Author(s). (Year). Title of article. *Title of Periodical, volume number*(issue number), pages. DOI or URL.

Camburn, B., Viswanathan, V., Linsey, J., Anderson, D., Jensen, D., Crawford, R., Otto, K., & Wood, K. (2017). Design prototyping methods: state of the art in strategies, techniques, and guidelines. *Design Science*, *3*, e13. https://doi.org/10.1017/dsj.2017.10

Jiao, R., Luo, J., Malmqvist, J., & Summers, J. (2022). New design: opportunities for engineering design in an era of digital transformation. *Journal of Engineering Design*, *33*(10), 685–690. https://doi.org/10.1080/09544828.2022.2147270

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[1] Use "References → Insert Footnote" menu option to automatically place a footnote.
[2] Use the "Footnote Text" style for formatting the footnote contents.

Conference papers: Author(s). (Year). Title of paper. In Editor(s) (Ed(s).), *Title of Conference Proceedings* **(pp. pages). Publisher. DOI or URL (if available).**

Obilanade, D., Dordlofva, C., & Törlind, P. (2021). SURFACE ROUGHNESS CONSIDERATIONS IN DESIGN FOR ADDITIVE MANUFACTURING - A LITERATURE REVIEW. In B. Ion (Ed.), *Proceedings of the Design Society, Volume 1: ICED21* (pp. 2841–2850). Cambridge University Press. https://doi.org/10.1017/pds.2021.545

Zhu, Q., & Luo, J. (2022). Generative Pre-Trained Transformer for Design Concept Generation: An Exploration. In M. Štorga, S. Škec, T. Martinec, & D. Marjanović (Eds.), *Proceedings of the Design Society, Volume 2: DESIGN2022* (pp. 1825–1834). Cambridge University Press. https://doi.org/10.1017/pds.2022.185

Books: Author(s). (Year). *Title of book.* **Publisher. DOI or URL (if available).**

Hubka, V., & Eder, W. E. (1996). *Design Science*. Springer-Verlag. https://doi.org/10.1007/978-1-4471-3091-8

Pahl, G., Beitz, W., Feldhusen, J., & Grote, K.-H. (2007). *Engineering Design: A Systematic Approach* (3rd ed.). Springer-Verlag. https://doi.org/10.1007/978-1-84628-319-2

Book chapters: Author(s) of chapter. (Year). Title of chapter. In Editor(s) (Ed(s).), *Title of book* **(pp. pages). Publisher. DOI or URL (if available).**

Gero, J. S., & Kan, J. W. T. (2016b). Scientific Models from Empirical Design Research. In P. Cash, T. Stanković, & M. Štorga (Eds.), *Experimental Design Research: Approaches, Perspectives, Applications* (pp. 253–270). Springer. https://doi.org/10.1007/978-3-319-33781-4_14

McMahon, C. (2022). History of Engineering Systems Design Research and Practice. In A. Maier, J. Oehmen, & P. E. Vermaas (Eds.), *Handbook of Engineering Systems Design* (pp. 33–51). Springer. https://doi.org/10.1007/978-3-030-81159-4_2

Theses: Author. (Year). *Title of thesis* **[Type of thesis, Name of Institution]. Database Name. DOI or URL (if available).**

Brisco, R. (2021). *A systematic technology evaluation and selection method for computer-supported collaborative design* [Doctoral thesis, University Of Strathclyde]. STAX. https://doi.org/10.48730/zpg4-jh71

Pannunzio, V. (2023). *Towards a convergent approach to the use of data in digital health design* [Doctoral thesis, Delft University of Technology]. TU Delft Repository. https://doi.org/https://doi.org/10.4233/uuid:7b9395d3-a654-4a6e-8c98-35eb5901194e

Standards and patents: Author(s) or Organization. (Year). *Title of standard or patent* **(standard or patent number). Publisher. URL (if available)**

International Organization for Standardization. (2015). *Quality management systems - Fundamentals and vocabulary* (ISO 9000:2015). ISO. https://www.iso.org/standard/45481.html

Rorato, R. (2017). *Groups of faces that form a geometrical pattern* (European Patent No. EP 2750107 B1). European Patent Office. https://patents.google.com/patent/EP2750107B1/en

Reports: Author(s) or Organization. (Year). *Title of report.* **Publisher. DOI or URL (if available).**

Isaksson, O., & Eckert, C. (2020). *Product Development 2040: Technologies are just as good as the designer's ability to integrate them*. The Design Society. https://doi.org/10.35199/report.pd2040

Weber, C., Andreasen, M. M., & Vajna, S. (2020). *"Rigi Meetings": From Workshop Design-Konstruktion to The Design Society*. The Design Society. https://www.designsociety.org/publication/42465/Rigi+Meetings

Web pages: Author(s). (Year). *Title of web page.* **Website Name. URL.**

International Design Conference. (2024). *About*. DESIGN Conference. https://www.designconference.org/about

The Design Society. (2024). *International Conference on Engineering Design (ICED)*. The Design Society. https://iced.designsociety.org/

Please be careful to adhere to the following guidelines when preparing your references:

- Every reference cited in the text must also be included in the reference list (and vice versa).
- The list of references must be sorted in alphabetical order.
- Each reference needs to include the Digital Object Identifier (DOI) if the publication has one. DOI can be found on the reference source website or in the CrossRef database (http://www.crossref.org).

Appendix A

Appendices (if any) should be placed after references, with the title in "Unnumbered heading" style (without numeration) and labelled using letters (e.g. Appendix A, Appendix B, Appendix C, etc.). Within the text, appendices must be referenced in the same way, e.g. *"Please consult Appendix A for the complete list of questions"*. **Appendices must be included within the 10-page limit.**

Appendix B

Tables 2 and 3 give an overview of properties for each style to be used for the preparation of the papers. Be aware that these styles are already built into the paper template.

Table 2. Overview of paragraph styles

Style name	Style properties
Normal	Times New Roman, regular, 11 pt, justified, single line, no spacing
Heading1	Trebuchet MS, bold, 14 pt, left aligned, single line, 12 pt space before and 3 pt space after
Heading2	Trebuchet MS, bold, 12 pt, left aligned, single line, 12 pt space before and 3 pt space after
Heading3	Trebuchet MS, italic, 11 pt, left aligned, single line, 12 pt space before and 3 pt space after
Unnumbered heading	Trebuchet MS, bold, 12 pt, left aligned, single line, 12 pt space before and 3 pt space after
Bulleted list	Times New Roman, regular, 11 pt, justified, single line, 6 pt space after changing to other style, 0.63 cm hanging indent and 0.63 cm tabs, dot bullet
Numbered list	Times New Roman, regular, 11 pt, justified, single line, 6 pt space after changing to other style, 0.63 cm hanging indent and 0.63 cm tabs, automatic numbering
Lettered list	Times New Roman, regular, 11 pt, justified, single line, 6 pt space after changing to other style, 0.63 cm hanging indent and 0.63 cm tabs, automatic lettering
Figure	Times New Roman, regular, 11 pt, centred, single line, 12 pt spacing before
Figure caption	Trebuchet MS, bold, 10 pt, centred, single line, 3 pt space before and 6 pt space after
Table caption	Trebuchet MS, bold, 10 pt, centred, single line, 12 pt space before and 3 pt space after
Table text left	Times New Roman, regular, 10 pt, left aligned, single line, 1 pt space before and 1 pt space after
Table text centre	Times New Roman, regular, 10 pt, centred, single line, 1 pt space before and 1 pt space after
Table text right	Times New Roman, regular, 10 pt, right aligned, single line, 1 pt space before and 1 pt space after
Equation	Times New Roman, regular, 10 pt, left aligned, single line, 6 pt space before and 6 pt space after
Quote	Times New Roman, italic, 11 pt, justified, single line, no spacing, 3 pt space before and 3 pt space after, 1.27 cm hanging indent and 1.27 cm tabs
References	Times New Roman, regular, 10 pt, justified, single line, no spacing, 0.63 cm hanging indent
Footnote Text	Times New Roman, regular, 10 pt, justified, single line, no spacing
Title	Trebuchet MS, bold, 18 pt, left aligned, single line, 80 pt space before and 24 pt space after

Table 3. Overview of character styles

Style name	Style properties
Strong	Default paragraph font, bold
Emphasis	Default paragraph font, italic
Intense Emphasis	Default paragraph font, bold italic
Subscript	Default paragraph font, subscript
Superscript	Default paragraph font, superscript