heria: A LaTeX class for Horizon Europe RIA and IA grant proposals*

Tristan Miller
Department of Computer Science
University of Manitoba
Tristan.Miller@umanitoba.ca

July 14, 2024

Contents

---

*This document corresponds to heria v3.4.1.0, dated 2024-07-14. See §5.2 for an explanation of the versioning scheme.

1

1 Introduction

This document describes the usage of heria, a LaTeX class that facilitates the preparation of Research and Innovation Action (RIA) and Innovation Action (IA) funding proposals for the European Commission's (EC) Horizon Europe program. The Commission prescribes a detailed, structured format for the technical description ("Part B") of these proposals, but provides templates only in Rich Text Format (RTF), a format that does not lend itself well to collaborative authorship and (cross-)reference management. The heria class is a conversion of the official Part B template into LaTeX; it preserves the formatting and most of the instructions of the original version, and has the additional feature that tables (listing the participants, work packages, deliverables, etc.) are programmatically generated according to data supplied by the user. The advantage of this becomes clear when one considers that much of the data is reused across multiple tables.

The heria package can be used to write proposals using either Version 3.2 (2022-11-15), 3.3 (2023-09-27), or 3.4 (2024-04-04) of the official Part B template.

2 Usage

The EC's official template is structured in such a way that form and content cannot be entirely separated. The best way of starting a new proposal is therefore to make a copy of `heria-proposal.tex`, the skeleton proposal distributed with this package, and then adapt it to your project. The following subsections describe the various macros and environments provided by heria, roughly in the same order presented in the skeleton proposal.

2.1 Preamble

Your proposal document should begin with the following line if you want the template instructions to be included in the output:

    \documentclass[showinstructions]{heria}

Otherwise you can omit the `showinstructions` option:

    \documentclass{heria}

The heria class is based on the default LaTeX `article` class, and so all of the macros and environments from the latter are available for you to use. The class automatically sets the font, margins, etc. mandated by the official instructions, and redefines some of the `article` macros as described later in this document.

Following `\documentclass` you should tell heria which version of the official Part B template you want to use:

`\templateversion`   This macro sets the version of the official Part B template the proposal should use. It takes a single argument; valid values are `3.2`, `3.3`, and `3.4`. If you omit this macro, heria will default to using the latest version of the template.

You should then provide the proposal metadata using the following macros:

`\title`   This macro takes the title of the proposal as its sole argument. This title will be printed by the `\maketitle` macro (see below) and used for the PDF metadata.

`\callname`   This macro takes as its sole argument the official natural-language description

of the call to which the proposal is being submitted. It will be printed in the page header.

\callidentifier This macro takes as its sole argument the identifier of the call to which the proposal is being submitted, which will be printed in the page header. Call identifiers normally have the format `HORIZON-XX0-0000-XXXXX-00-XXXXX`.

\calltopic This macro takes as its sole argument the identifier of the specific topic within the call to which the proposal is being submitted. Such identifiers normally have the format `HORIZON-XX0-0000-XXXXX-00-00`. The official template does not require proposals to mention the call topic, so you are free to omit the \calltopic macro. If you do use it, it will be printed by \maketitle below the proposal title.

2.2 Title

\maketitle This is generally the first macro that should be called in the main body of the document. As with the standard `article` class, it typesets the title.

2.3 Section headings, tags, and instructions

\heinstructions When the `showinstructions` options is passed to the document class, the \heinstructions macro prints instructions from the official EC template. These instructions are contained in files distributed with the `heria` class; the macro's sole argument is used to construct the name of one of these files. To suppress printing of individual instructions, you can simply remove or comment out the corresponding \heinstructions macro.

\opentag The official template includes a number of "tags" that are used for the EC's "in-
\closetag ternal processing of information, mostly for statistical gathering." The \opentag and \closetag macros are used to emit the tags at the appropriate places in the proposal, and so should be left in their original positions in the skeleton template. The EC asks that proposal authors "not move, delete, re-order, or alter tags in any way".

\section These three macros take a mandatory argument specifying the title of the
\subsection corresponding section, subsection, or subsubsection, respectively. These document
\subsubsection subdivisions are fixed by the official template and so generally should not be renamed or reordered, though it is probably safe to add additional ones where it does not disrupt the numbering of the existing ones. Many sections and subsections *must* be preceded or followed by certain tags, which are specified in the first and second optional arguments, respectively. The third optional argument contains the recommended page limit, when specified by the official template. The page limit will be printed only when the `showinstructions` option is passed to the document class.

2.4 Participants

\participant Participants should be listed in the same order as in Part A of the proposal, which is completed using an online form. Use one invocation of \participant for each participant, with the following three mandatory arguments, in order: the participant's full name, the participant's short name, and the participant's two-letter country code. The first participant will be marked in the participant table as the project coordinator. Note that while the short name is typeset in the proposal,

it is also used internally by the `heria` class as part of a LaTeX counter name, and so should generally consist only of ASCII letters.

`\makeparticipantstable` This macro emits the table of participants using the data from the `\participant` macro. Participants are automatically numbered according to the order of the `\participant` macros.

2.5 Summary tableau

`summarycanvas` (*env.*)
`summarybox` (*env.*)
Proposals must include a summary tableau of six boxes that briefly describe the project's specific needs; expected results; dissemination, exploitation, and communication measures; target groups; outcomes; and impacts. The `summarycanvas` and `summaryenv` environments are provided for this purpose. Each `summarybox` environment typesets a shaded box headed by its mandatory argument. Three such boxes can be grouped side by side into a single `summarycanvas` environment. The skeleton proposal demonstrates how all six boxes can be placed in a floating figure on a single landscape page, though other arrangements seem to be permissible.

2.6 Work packages and deliverables

`\makeworkpackagestable` This macro emits the table of work packages, using the data from the `\workpackage` macros. Work packages are automatically numbered according to the order of the `\workpackage` macros.

`\workpackage` This macro declares a work package, and takes five mandatory arguments: a unique identifier (used only internally by `heria` for cross-referencing purposes), the work package title, the short name of the lead participant (as specified in the corresponding `\participant` macro), the numeric starting month (measured from the start of the project), and the numeric ending month. Since the unique identifier is used as part of a LaTeX counter name, you should generally use only ASCII letters. Work packages are automatically numbered. You should use one `\workpackage` macro for each work package in your project.

`objectives` (*env.*) This environment typesets a box containing an enumerated list of objectives for the most recently declared work package. Use the `\item` macro to begin each objective.

`descriptionofwork` (*env.*) This environment typesets a box where you can describe the work program of the most recently declared work package. You can enter this information in free-form and/or use the `\task` macro to enumerate individual tasks.

`\task` This macro typesets basic information about a work package task. The format used by this macro is not strictly mandated by the official template, but you may nonetheless find it useful. The macro takes three mandatory arguments: the task name, the short name of the lead participant (as specified in the corresponding `\participant` macro), a list of other participants (as free-form text, but advisedly using short names of participants where appropriate), and the starting and ending months for the task (as free-form text). You should use one `\task` macro for each task in your work package. You can, if you wish, follow each `\task` macro with a free-form description of the task.

`\deliverable` This macro declares a deliverable for the most recently declared work package. There are six mandatory arguments: the deliverable name, a short description of the deliverable, the short name of the lead participant (as specified in the corresponding `\participant` macro), the deliverable type, the dissemination level,

and the numeric delivery month (in months from the beginning of the project). The type and dissemination level arguments must be selected from the identifiers given in the template instructions.

`\makedeliverablestable` This macro emits the table of deliverables, using the data from the `\deliverable` macros. Deliverables are automatically numbered according to the order of the `\deliverable` macros.

2.7 Milestones

`\milestone` This macro declares a project milestone. It takes four mandatory arguments: the milestone name, a free-form list of related work packages, the due date (in number of months from the start of the project), and a free-form means of verification. You should use one `\milestone` macro for each milestone in your project.

`\makemilestonestable` This macro emits the table of milestones, using the data from the `\milestone` macros. Milestones are automatically numbered according to the order of the `\milestone` macros.

2.8 Critical risks

`\criticalrisk` This macro declares a critical risk for the project. It takes five mandatory arguments: a free-form description of the risk, the likelihood of the risk, the severity of the risk, and a free-form description of proposed mitigation measures. The likelihood and severity arguments must be selected from the identifiers given in the template instructions. You should use one `\criticalrisk` macro for each critical risk in your project.

`\makecriticalriskstable` This macro emits the table of critical risks, using the data from the `\criticalrisk` macros. Critical risks are output in the order of the `\criticalrisk` macros.

2.9 Summary of staff effort

`\staffeffort` This macro declares the number of person-months a given project participant will spend on a given work package. It takes three mandatory arguments: the short name of the participant (as specified in the corresponding `\participant` macro), the short name of the work package (as specified in the corresponding `\workpackage` macro), and the number of months. You must provide one and only one `\staffeffort` macro for every possible combination of participant and work package in your project.

`\makestaffefforttable` This macro emits the summary of staff effort table, using the data from the `\staffeffort` macros. The table rows and columns are automatically ordered according to the order of the `\participant` and `\workpackage` macros, respectively, and the total person-months per participant and total person-months per work package are automatically calculated.

2.10 Costs

`\subcontractingcost` This macro declares a subcontracting cost. It takes three mandatory arguments: the short name of a participant (as specified in the corresponding `\participant` macro), the amount of the subcontracting cost in euros, and a free-form description

of the tasks and justification for the subcontracting cost. You should use one \subcontractingcost macro for each subcontracting cost in your project.

\makesubcontractingcoststable This macro emits the tables of subcontracting costs, using the data from the \subcontractingcost macros. Subcontracting costs are automatically grouped by participant and then output according to the order of the \participant and \subcontractingcost macros.

\purchasecost This macro declares the purchase costs for a participant. It takes eight mandatory arguments:

> \purchasecost{⟨*participant*⟩}%
> {⟨*goodscost*⟩}{⟨*justification*⟩}%
> {⟨*travelcost*⟩}{⟨*justification*⟩}%
> {⟨*equipmentcost*⟩}{⟨*justification*⟩}%
> {⟨*remainingcosts*⟩}

Here ⟨*participant*⟩ is the short name of a participant (as specified in the corresponding \participant macro); ⟨*goodscost*⟩, ⟨*travelcost*⟩, ⟨*equipmentcost*⟩, and ⟨*remainingcost*⟩ are the amount of the "other goods, works and services", "travel and subsistence", "equipment", and "remaining purchase costs", respectively, in euros; and the ⟨*justification*⟩ arguments are free-form justifications for the immediately preceding cost. (According to the official template, the remaining purchase costs do not require a justification.) You should use one \purchasecost macro for each participant with purchase costs in your project.

\makepurchasecoststable This macro emits the tables of purchase costs, using the data from the \purchasecost macros. Purchase costs are output according to the order of the \participant macros, and then in reverse order of the largest costs, with the "remaining purchase costs" output last.

\othercost This macro declares an "other" cost (i.e., in the "other costs" category). It takes three mandatory arguments: the short name of a participant (as specified in the corresponding \participant macro), the amount of the "other" cost in euros, and a free-form justification for the cost. You should use one \othercost macro for each "other" cost in your project.

\makeothercoststable This macro emits the tables of "other" costs, using the data from the \othercost macros. "Other" costs are automatically grouped by participant and then output according to the order of the \participant and \othercost macros.

\inkindcontribution This macro declares an in-kind contribution. It takes five mandatory arguments: the short name of a participant (as specified in the corresponding \participant macro), the third party name, the category of the contribution (selected from Seconded personnel, Travel and subsistence, Equipment, Other goods, works and services, and Internally invoiced goods and services), the amount of the cost in euros, and a free-form justification for the in-kind contribution. You should use one \inkindcontribution macro for each in-kind contribution in your project.

\makeinkindcontributionstable This macro emits the tables of in-kind contributions, using the data from the \inkindcontribution macros. In-kind contributions are automatically grouped by participant and then output according to the order of the \participant and \inkindcontribution macros.

3 Hints and tips

Part A. Some proposal data—in particular, the list of participants and the costs—must be entered not just in Part B of the proposal, but also in the online Part A form. It is your responsibility to ensure that this data is consistent across the two parts of the proposal.

File structure. Rather than putting all the work package data into your main proposal document, you may find it convenient to put the `\workpackage` macro, the `objectives` environment, the `descriptionofwork` environment, and the `\deliverable` macros corresponding to a single work package into a dedicated file, which you can then include in your main proposal document with the `\input` macro. This will make it easier for you to shuffle the order of work packages as you write your proposal. (You may wish to split off other sections of the proposal into their own files, though the official template gives considerably less freedom to reorder them.)

Vertical spacing. The heria class applies the same vertical spacing as the article class; this is particularly generous around section headings. If you find yourself running up against the page limit, you may wish to add some `\vspace` commands, with a negative length as the argument, to tighten up the spaces before section headings, and perhaps also the tables.

4 Limitations and caveats

Table 3.1h. The instructions in the official template are ambiguous about the construction of the tables for purchase costs. In particular, it's not clear whether each individual cost exceeding 15% of the personnel costs must be listed in a separate row, or whether all costs in each category ("travel and subsistence", "equipment", etc.) should be combined into a single row. The heria class takes the latter interpretation; this may or may not be the same interpretation adopted by the funding agency and its reviewers.

Error handling. The class currently does very little error checking on its input. Usually invalid input (e.g., mistyping the short name of a participant or work package in a macro argument, or neglecting to provide a macro necessary to generate a table) *will* result in an error that prevents the document from compiling, though the diagnostic message emitted by LaTeX may be somewhat cryptic.

Coverage of instructions. The class reproduces most, but not all, of the instructions from the official template. In particular, it omits all the instructions occurring before the title of the proposal, including three pages of introductory material and definitions. You should not rely solely on the instructions emitted by the class, which are provided only as a convenience; be sure to also read the instructions in the official template (and in the text of the call to which you are applying).

5 Package development

5.1 Source repository and bug tracker

For now, the package's source code is hosted on GitHub at https://github.com/logological/heria. There you will also find an issue tracker for reporting bugs and feature requests.

5.2 Versioning scheme

Each release of the heria class carries a version number in the format *omaj.omin. maj.min*. Here *omaj.omin* is the highest version number of the official Horizon Europe RIA template that the class implements, and *maj* and *min* represent, respectively, major and minor revisions to the class (including any ancillary files, such as the skeleton proposal and documentation). A major revision is one that includes potentially breaking changes or significant new features; minor revisions are for all other changes. While efforts will be made to preserve compatibility with earlier versions of the official template (via the `\templateversion` macro), any change to *omaj.omin* could unavoidably introduce breaking changes to the class interface. Any such changes will be noted in the package documentation.

5.3 Version history

v3.4.1.0 (2024-07-14) Add support for version 3.4 of the official Part B template and the `\templateversion` macro for backward compatibility with earlier versions.

v3.2.1.0 (2023-12-04) Initial release.

6 Disclaimer

The heria package is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. (See the LaTeX Project Public License for further details.) In particular, users should understand that the heria proposal template is wholly unofficial, and its author(s) accept no responsibility for any omissions, errors, or discrepancies with respect to the requirements set forth in the official Horizon Europe templates and associated documentation. If you produce a proposal with this template, then you alone are responsible for ensuring that it matches all the official requirements before submitting it to the funding body.

A Implementation

Basic setup

Import the `article` class and set up some basic features (margins, hyperlinks, etc.)

```
1 \LoadClass[11pt,a4paper]{article}
2 \RequirePackage[T1]{fontenc} % T1 font encoding
```

```
 3 \RequirePackage[left=15mm,
 4                 top=15mm,
 5                 bottom=15mm,
 6                 right=15mm,
 7                 includehead,
 8                 includefoot,
 9                 headheight=10pt,
10                 headsep=5mm,
11                 footskip=18pt,
12                 ]{geometry}
13 \RequirePackage[pdftex]{graphicx} % For graphics
14
15 \RequirePackage[pdftex,pdfusetitle]{hyperref} % Hyperlinks
16 \hypersetup{%
17     colorlinks=true,
18     breaklinks=true,
19     urlcolor=black,
20     linkcolor=black,
21     citecolor=black,
22     pdfsubject={},
23     pdfkeywords={},
24 }
25
26 \RequirePackage{xfp} % Floating point numbers
27
```

A helper function to display variables

```
28 \newcommand{\disptoken}[1]{%
29   \csname#1\endcsname
30 }
```

Tables and framed boxes

```
31 \RequirePackage{colortbl} % for shaded table rows
32 \RequirePackage{xltabular} % for breakable tables with var-width columns
33 \RequirePackage[table]{xcolor} % for colours and shaded table cells
34 \RequirePackage[breakable,raster]{tcolorbox} % for framed boxes
```

Colours

```
35 \definecolor{taggrey}{HTML}{B5B5B5}
36 \definecolor{footergrey}{HTML}{D8D8D8}
37 \definecolor{tablegrey}{HTML}{F2F2F2}
38 \definecolor{summaryblue}{HTML}{00B0F0}
```

Set official Horizon Europe template version

```
39 \gdef\@templateversion{3.4} % Default version
40 \def\@supportedtemplateversions{3.2,3.3,3.4} % Supported versions
41 \ExplSyntaxOn
42 \NewDocumentCommand{\templateversion}{m}{%
43 \clist_if_in:NnTF {\@supportedtemplateversions} {#1}
44    {\gdef\@templateversion{#1}}
45    {\PackageError{heria}%
46      {unsupported~template~version}%
47      {Use~one~of~\@supportedtemplateversions}
```

```
48      }%
49 }
50 \ExplSyntaxOff
```

Basic proposal variables

```
51 \newcommand{\callname}[1]{\gdef\@callname{#1}}%
52 \newcommand{\callidentifier}[1]{\gdef\@callidentifier{#1}}%
53 \newcommand{\calltopic}[1]{\gdef\@calltopic{#1}}%
```

Participants

```
54 \newcounter{@pcount} % Participant counter
55 \newcommand{\participant}[3]{%
56   \stepcounter{@pcount}%
57   \newcounter{@p#2num}%
58   \setcounter{@p#2num}{\value{@pcount}}%
59   \expandafter\xdef\csname @pFullName\arabic{@p#2num}\endcsname{#1}%
60   \expandafter\xdef\csname @pShortName\arabic{@p#2num}\endcsname{#2}%
61   \expandafter\xdef\csname @pCountry\arabic{@p#2num}\endcsname{#3}%
62   \newcounter{@pSubcontractingCosts\arabic{@p#2num}}%
63   \newcounter{@pPurchaseCosts\arabic{@p#2num}}%
64   \newcounter{@pOtherCosts\arabic{@p#2num}}%
65   \newcounter{@pInkindContributions\arabic{@p#2num}}%
66 }
```

   Get participant number from short name
```
67 \newcommand{\getPnum}[1]{%
68   \@ifundefined{c@@p#1num}{}{\arabic{@p#1num}}%
69 }
```

   Participants table row
```
70 \newcommand{\ptablerow}[1]{%
71   \stepcounter{#1}
72   \the\value{#1}
73   \ifthenelse{\value{#1}=1}{ (Coordinator) &}{&}%
74   \disptoken{@pFullName\arabic{#1}} (\disptoken{@pShortName\arabic{#1}}) &
75   \disptoken{@pCountry\arabic{#1}} \\
76   \hline%
77 }
```

   Participants table
```
78 \newcommand{\makeparticipantstable}{%
79   \newcounter{@ptable}
80   \begin{center}
81     \begin{xltabular}{0.9\textwidth}{|l|X|l|}
82       \hline
83       \textbf{Participant No.} &
84       \textbf{Participant organisation name} &
85       \textbf{Country} \\
86       \hline
87       \whiledo%
88         {\value{@ptable}<\numexpr\value{@pcount}-1}%
89         {\ptablerow{@ptable}}%
90       \ptablerow{@ptable}
91     \end{xltabular}
92   \end{center}
```

```
93 }
```

Work packages

```
94 \RequirePackage{atveryend}
95 \newcounter{@wpcount} % Work package counter
96 \newcommand{\workpackage}[5]{%
97   \stepcounter{@wpcount}%
98   \newcounter{@wp\arabic{@wpcount}deliverable}%
99   \newcounter{@wp\arabic{@wpcount}task}%
100  \newcounter{@wp#1num}%
101  \setcounter{@wp#1num}{\value{@wpcount}}%
102  \expandafter\xdef\csname %
103    @wpPersonMonths\arabic{@wp#1num}\endcsname{0}%
104  \expandafter\xdef\csname @wpShortName\arabic{@wp#1num}\endcsname{#1}%
105  \expandafter\xdef\csname @wpTitle\arabic{@wp#1num}\endcsname{#2}%
106  \expandafter\xdef\csname %
107    @wpLeadParticipantShortName\arabic{@wp#1num}\endcsname{#3}%
108  \expandafter\xdef\csname @wpStartMonth\arabic{@wp#1num}\endcsname{#4}%
109  \expandafter\xdef\csname @wpEndMonth\arabic{@wp#1num}\endcsname{#5}%
110  \@bsphack
111  \protected@write\@auxout{}%
112    {\string\makeworkpackagestable@data{\arabic{@wp#1num}
113    & #2 & \getPnum{#3} & #3 & %
114    \@ifundefined{@wpTotalPersonMonths\arabic{@wp#1num}}%
115    {\textbf{??}}%
116    {\disptoken{@wpTotalPersonMonths\arabic{@wp#1num}}}%
117    & #4 & #5}}%
118  \@esphack
119  \ifthenelse{\arabic{@wp#1num}=1}{}{\bigskip}
120  \noindent\begin{tabularx}%
121    {1.0\linewidth}{|>{\columncolor{tablegrey}}l|X|}
122    \hline
123    \bfseries Work package number & \arabic{@wp#1num} \\
124    \hline
125    \bfseries Work package title & #2 \\
126      \hline
127  \end{tabularx}
128 }
129 \newcommand{\makeworkpackagestable@data}[1]{%
130   \g@addto@macro\makeworkpackagestable@body{#1 \\ \hline}%
131 }
132 \def\makeworkpackagestable@body{}% initialize
133 \AtBeginDocument{\global\let\makeworkpackagestable@body@startup%
134   \makeworkpackagestable@body}
135 \AtEndDocument{%
136   \global\let\makeworkpackagestable@body@end\@empty
137   \def\makeworkpackagestable@data#1%
138     {\g@addto@macro\makeworkpackagestable@body@end{#1 \\ \hline}}%
139 }
140 \AtVeryEndDocument{%
141   \ifx\makeworkpackagestable@body@startup%
142     \makeworkpackagestable@body@end\else
143     \@latex@warning{Rerun for \string\makeworkpackagestable}%
144   \fi
```

```
145 }
```

Work packages table

```
146 \RequirePackage{makecell}
147 \newcommand{\makeworkpackagestable}{%
148   \begin{center}
149     \renewcommand\theadfont{\normalsize\bfseries}
150     \begin{xltabular}{1.0\textwidth}{|c|X|c|c|c|c|c|}
151       \hline
152       \rowcolor{tablegrey}%
153       \thead{Work\\ package\\ No.} &
154       \thead{Work package title} &
155       \thead{Lead\\ participant\\ No.} &
156       \thead{Lead\\ participant\\ short name} &
157       \thead{Person-\\months} &
158       \thead{Start\\ month} &
159       \thead{End\\ month} \\
160       \hline
161       \makeworkpackagestable@body
162     \end{xltabular}
163   \end{center}
164 }
```

Get work package number from short name

```
165 \newcommand{\getWPnum}[1]{%
166   \@ifundefined{c@@wp#1num}{}{\arabic{@wp#1num}}%
167 }
```

Work package objectives

```
168 \newenvironment{objectives}{%
169   \begin{tcolorbox}[colback=white,
170                     parbox=false,
171                     boxrule=0.75pt,
172                     boxsep=0mm,
173                     breakable
174   ]%
175   \textsf{\textbf{Objectives}~~~}%
176   \begin{enumerate*}[nolistsep,noitemsep,itemjoin={~---~},%
177     label=\textbf{O\arabic{@wpcount}.\arabic*}]%
178 }{%
179   \end{enumerate*}%
180   \end{tcolorbox}%
181   }
```

Work package description

```
182 \newenvironment{descriptionofwork}{%
183   \begin{tcolorbox}[colback=white,
184                     parbox=false,
185                     boxrule=0.75pt,
186                     boxsep=0mm,
187                     breakable
188   ]%
189   \textsf{\textbf{Description of work}~~~}
190 }{%
191   \end{tcolorbox}%
192   }
```

Tasks

```
193 \NewDocumentCommand{\task}{mmmm}{%
194   \stepcounter{@wp\arabic{@wpcount}task}
195   \par\medskip\noindent\textbf{Task %
196   \arabic{@wpcount}.\arabic{@wp\arabic{@wpcount}task}: #1}
197   \textit{(Lead: #2; Participants: #3; Month: #4)}\hspace{1em}%
198 }
```

Deliverables

```
199 \newcounter{@dcount} % Deliverable counter
200 \newcommand{\deliverable}[6]{%
201   \stepcounter{@wp\arabic{@wpcount}deliverable}%
202   \stepcounter{@dcount}%
203   \expandafter\xdef\csname @dNumber\arabic{@dcount}\endcsname%
204     {\arabic{@wpcount}.\arabic{@wp\arabic{@wpcount}deliverable}}}%
205   \expandafter\xdef\csname %
206     @dWorkPackage\arabic{@dcount}\endcsname{\arabic{@wpcount}}%
207   \expandafter\xdef\csname @dName\arabic{@dcount}\endcsname{#1}%
208   \expandafter\gdef\csname @dDescription\arabic{@dcount}\endcsname{#2}%
209   \expandafter\xdef\csname @dLead\arabic{@dcount}\endcsname{#3}%
210   \expandafter\xdef\csname @dType\arabic{@dcount}\endcsname{#4}%
211   \expandafter\xdef\csname %
212     @dDisseminationLevel\arabic{@dcount}\endcsname{#5}%
213   \expandafter\xdef\csname @dDeliveryDate\arabic{@dcount}\endcsname{#6}%
214 }
```

Deliverables table row

```
215 \newcommand{\dtablerow}[1]{%
216   \stepcounter{#1}
217   \disptoken{@dNumber\arabic{#1}} &
218   \disptoken{@dName\arabic{#1}} &
219   \disptoken{@dDescription\arabic{#1}} &
220   \disptoken{@dWorkPackage\arabic{#1}} &
221   \disptoken{@dLead\arabic{#1}} &
222   \disptoken{@dType\arabic{#1}} &
223   \disptoken{@dDisseminationLevel\arabic{#1}} &
224   \disptoken{@dDeliveryDate\arabic{#1}} \\
225   \hline%
226 }
```

Deliverables table

```
227 \newcommand{\makedeliverablestable}{%
228   \newcounter{@dtable}
229   \begin{center}
230     \renewcommand\theadfont{\normalsize\bfseries}
231     \begin{xltabular}{1.0\textwidth}%
232       {|c|>{\raggedright\hsize=.667\hsize\linewidth=\hsize}X%
233       |>{\hsize=1.333\hsize\linewidth=\hsize}X|c|c|c|c|p{15mm}|}
234       \hline
235       \rowcolor{tablegrey}%
236       \thead{\#} &
237       \thead{Name} &
238       \thead{Short description} &
239       \thead{WP\\ \#} &
240       \thead{Lead\\ participant} &
```

```
241       \thead{Type} &
242       \thead{Dissem.\\ level} &
243       \thead{Delivery\\ month} \\
244       \hline
245       \whiledo%
246         {\value{@dtable}<\numexpr\value{@dcount}-1}%
247         {\dtablerow{@dtable}}%
248       \dtablerow{@dtable}
249     \end{xltabular}
250   \end{center}
251 }
```

Milestones

```
252 \newcounter{@mcount} % Milestone counter
253 \newcommand{\milestone}[4]{%
254   \stepcounter{@mcount}%
255   \expandafter\gdef\csname @mName\arabic{@mcount}\endcsname{#1}%
256   \expandafter\xdef\csname @mWorkPackages\arabic{@mcount}\endcsname{#2}%
257   \expandafter\xdef\csname @mDueDate\arabic{@mcount}\endcsname{#3}%
258   \expandafter\xdef\csname %
259     @mMeansOfVerification\arabic{@mcount}\endcsname{#4}%
260 }
```

   Milestones table row
```
261 \newcommand{\mtablerow}[1]{%
262   \stepcounter{#1}
263   \arabic{#1} &
264   \disptoken{@mName\arabic{#1}} &
265   \disptoken{@mWorkPackages\arabic{#1}} &
266   \disptoken{@mDueDate\arabic{#1}} &
267   \disptoken{@mMeansOfVerification\arabic{#1}} \\
268   \hline%
269 }
```

   Milestones table
```
270 \newcommand{\makemilestonestable}{%
271   \newcounter{@mtable}
272   \begin{center}
273     \renewcommand\theadfont{\normalsize\bfseries}
274     \begin{xltabular}{1.0\textwidth}{|c|X|p{26mm}|c|p{26mm}|}
275       \hline
276       \rowcolor{tablegrey}%
277       \thead{\#} &
278       \thead{Milestone\\ name} &
279       \thead{Related\\ WP(s)} &
280       \thead{Month\\ due} &
281       \thead{Means of\\ verification} \\
282       \hline
283       \whiledo%
284         {\value{@mtable}<\numexpr\value{@mcount}-1}%
285         {\mtablerow{@mtable}}%
286       \mtablerow{@mtable}
287     \end{xltabular}
288   \end{center}
289 }
```

Critical risks

```
290 \newtcbox{\risktag}[1][black]{%
291   fontupper=\scriptsize\sffamily\bfseries,%
292   on line,%
293   arc=3pt,%
294   colupper=white,%
295   colback=#1!50!black,%
296   colframe=#1!50!black,%
297   before upper={\rule[-3pt]{0pt}{10pt}},%
298   boxrule=1pt,%
299   boxsep=0pt,%
300   left=2pt,%
301   right=2pt,%
302   top=1pt,%
303   bottom=.5pt%
304 }
305 \newcounter{@crcount} % Critical risk counter
306 \newcommand{\criticalrisk}[5]{%
307   \stepcounter{@crcount}%
308   \expandafter\gdef\csname %
309     @crDescription\arabic{@crcount}\endcsname{#1}%
310   \expandafter\xdef\csname @crLikelihood\arabic{@crcount}\endcsname{#2}%
311   \expandafter\xdef\csname @crSeverity\arabic{@crcount}\endcsname{#3}%
312   \expandafter\xdef\csname %
313     @crWorkPackages\arabic{@crcount}\endcsname{#4}%
314   \expandafter\gdef\csname @crMitigation\arabic{@crcount}\endcsname{#5}%
315 }
```
    Critical risk table row
```
316 \newcommand{\crtablerow}[1]{%
317   \stepcounter{#1}%
318   \disptoken{@crDescription\arabic{#1}}\newline
319     \risktag[blue]{Likelihood: \disptoken{@crLikelihood\arabic{#1}}}
320     \risktag[red]{Severity: \disptoken{@crSeverity\arabic{#1}}} &
321   \disptoken{@crWorkPackages\arabic{#1}} &
322   \disptoken{@crMitigation\arabic{#1}} \\
323   \hline%
324 }
```
    Critical risks table
```
325 \newcommand{\makecriticalriskstable}{%
326   \newcounter{@crtable}
327   \begin{center}
328     \renewcommand\theadfont{\normalsize\bfseries}
329     \begin{xltabular}{1.0\textwidth}{|p{60mm}|c|X|}
330       \hline
331       \rowcolor{tablegrey}%
332       \thead{Description of risk (indicate level of\\ %
333         (i) likelihood, and (ii) severity:\\ %
334         Low\slash Medium\slash High)} &
335       \thead{WP(s)\\ involved} &
336       \thead{Proposed risk-mitigation measures} \\
337       \hline
338       \whiledo%
339         {\value{@crtable}<\numexpr\value{@crcount}-1}%
```

```
340        {\crtablerow{@crtable}}%
341      \crtablerow{@crtable}
342    \end{xltabular}
343  \end{center}
344 }
```

Staff effort

```
345 \newcommand{\staffeffort}[3]{%
346   \expandafter\xdef\csname @se#1.#2\endcsname{#3}%
347 }
```

Summary of staff effort table row
```
348 \newcommand{\setablerow}[1]{%
349   \def\serowtotal{0}%
350   \setcounter{@secolumn}{0}%
351   \bfseries\the\value{#1} \disptoken{@pShortName\arabic{#1}}%
352   \edef\serowtemp{}%
353   \whiledo{\value{@secolumn}<\value{@wpcount}}{%
354     \stepcounter{@secolumn}%
355     \edef\sewpname{\disptoken{@wpShortName\the\value{@secolumn}}}%
356     \edef\sewpcell%
357       {\disptoken{@se\disptoken{@pShortName\the\value{#1}}.\sewpname}}%
358     \edef\serowtotal%
359       {\fpeval{\serowtotal + \sewpcell}}% Total PMs per participant
360     \xdef\setotalpm{\fpeval{\setotalpm + \sewpcell}}% Total PMs
361     \expandafter\xdef\csname %
362       @wpPersonMonths\arabic{@secolumn}\endcsname{\fpeval{%
363       \sewpcell+\csname %
364       @wpPersonMonths\arabic{@secolumn}\endcsname}}% Total PMs per WP
365     \IfEq% If...
366     {\disptoken{@pShortName\the\value{#1}}}% ...the current PI
367     {\disptoken{@wpLeadParticipantShortName%
368       \the\value{@secolumn}}}% ...is the WP lead
369     {\protected@edef\seformat{\bfseries}}% ...then apply boldface
370     {\edef\seformat{}}% ...otherwise don't.
371     \protected@edef\serowtemp%
372       {\serowtemp&\seformat \sewpcell}% Print PI's PMs for this WP
373   }%
374   \protected@edef\serowtemp{\serowtemp&\fpeval{round(\serowtotal,0)}}%
375   \serowtemp%
376   \stepcounter{#1}%
377 }
```

Summary of staff effort table
```
378 \newcommand{\makestaffefforttable}{%
379   \newcounter{@setable}
380   \stepcounter{@setable}
381   \newcounter{@secolumn}
382   \xdef\setotalpm{0}
383   \edef\serowtemp{}
384   \begin{center}
385     \renewcommand\theadfont{\normalsize\bfseries}
386     \begin{xltabular}{1.0\textwidth}%
387       {|>{\columncolor{tablegrey}}l|*{\value{@wpcount}}{r|}%
388       >{\columncolor{tablegrey}}r|}
```

```
389        \hline
390        % Table header
391        \rowcolor{tablegrey}%
392        \whiledo{\value{@secolumn}<\value{@wpcount}}{%
393          \stepcounter{@secolumn}%
394          \protected@edef\serowtemp%
395            {\serowtemp&\protect\thead{WP\the\value{@secolumn}}}%
396        }
397        \serowtemp & \thead{Total PMs\\ per Participant} \\
398        \hline
399        % Participant rows
400        \whiledo%
401          {\value{@setable}<\numexpr\value{@pcount}}%
402          {\setablerow{@setable}\\ \hline}%
403        \setablerow{@setable} \\ \hline%
404        % Total
405        \rowcolor{tablegrey}%
406        \setcounter{@secolumn}{0}
407        \bfseries Total PMs
408        \whiledo{\value{@secolumn}<\value{@wpcount}}{%
409          \stepcounter{@secolumn}%
410          \edef\serowtemp{\serowtemp&\fpeval{round(\csname %
411            @wpPersonMonths\arabic{@secolumn}\endcsname,0)}}%
412          \@bsphack
413          \protected@write\@auxout{}%
414          {\string\expandafter\string\expandafter\string\expandafter%
415          \string\gdef\string\disptoken{@wpTotalPersonMonths%
416          \arabic{@secolumn}}{\fpeval{round(\disptoken{@wpPersonMonths%
417          \arabic{@secolumn}},0)}}}%
418          \@esphack
419        }
420        \serowtemp & \fpeval{round(\setotalpm,0)} \\
421        \hline
422      \end{xltabular}
423    \end{center}
424 }
```

Subcontracting costs

```
425 \newcommand{\subcontractingcost}[3]{%
426   \stepcounter{@pSubcontractingCosts\getPnum{#1}}
427   \expandafter\xdef\csname %
428     @scCost\getPnum{#1}.\arabic{@pSubcontractingCosts\getPnum{#1}}%
429     \endcsname{#2}%
430   \expandafter\xdef\csname %
431     @scJustification\getPnum{#1}.\arabic{@pSubcontractingCosts\getPnum%
432     {#1}}\endcsname{#3}%
433 }
```

Subcontracting costs table
```
434 \newcommand{\makesubcontractingcoststable}{%
435   \newcounter{@scparticipant}
436   \begin{center}
437     % For each participant
438     \whiledo{\value{@scparticipant}<\value{@pcount}}{%
```

```
439      \stepcounter{@scparticipant}%
440      \ifthenelse%
441        {\value{@pSubcontractingCosts\arabic%
442        {@scparticipant}}>0}% If they have subcontracting costs
443      {\sctablesection%
444        {@scparticipant}}% Print their subcontracting costs table
445      {}% Otherwise, do nothing
446    }%
447  \end{center}
448 }
```

Subcontracting costs table section
```
449 \newcommand{\sctablesection}[1]{%
450   \newcounter{@sccost\arabic{#1}}
451   \edef\scrowtemp{}
452   \renewcommand\theadfont{\normalsize\bfseries}
453   \begin{xltabular}{\textwidth}{|>{\columncolor{tablegrey}}l|r|X|}
454     \hline
455     \rowcolor{tablegrey}
456     \multicolumn{3}{|l|}{\bfseries\the\value{#1} %
457       \disptoken{@pShortName\arabic{#1}}} \\
458     \hline
459     \rowcolor{tablegrey}
460     & \thead{Cost (€)}
461     & \thead{Description of tasks and justification} \\
462     \hline
463     % For each subcontracting cost
464     \whiledo%
465       {\value{@sccost\arabic{#1}}<\numexpr\value%
466       {@pSubcontractingCosts\arabic{#1}}-1}{%
467     \stepcounter{@sccost\arabic{#1}}%
468     \sctablerow{#1}{@sccost\arabic{#1}}%
469     }%
470     \stepcounter{@sccost\arabic{#1}}%
471     \sctablerow{#1}{@sccost\arabic{#1}}%
472   \end{xltabular}
473 }
```

Subcontracting costs table row
```
474 \newcommand{\sctablerow}[2]{%
475   \thead{Subcontracting} &
476   \disptoken{@scCost\arabic{#1}.\arabic{#2}} &
477   \disptoken{@scJustification\arabic{#1}.\arabic{#2}}
478   \\ \hline
479 }
```

Other costs

```
480 \newcommand{\othercost}[3]{%
481   \stepcounter{@pOtherCosts\getPnum{#1}}
482   \expandafter\xdef\csname %
483     @ocCost\getPnum{#1}.\arabic{@pOtherCosts\getPnum{#1}}\endcsname{#2}%
484   \expandafter\xdef\csname %
485     @ocJustification\getPnum{#1}.\arabic%
486     {@pOtherCosts\getPnum{#1}}\endcsname{#3}%
487 }
```

Other costs table
```
488 \newcommand{\makeothercoststable}{%
489   \newcounter{@ocparticipant}
490   \begin{center}
491     % For each participant
492     \whiledo{\value{@ocparticipant}<\value{@pcount}}{%
493       \stepcounter{@ocparticipant}%
494       \ifthenelse%
495         {\value{@pOtherCosts\arabic%
496         {@ocparticipant}}>0}% If they have other costs
497       {\octablesection{@ocparticipant}}% Print their other costs table
498       {}% Otherwise, do nothing
499     }%
500   \end{center}
501 }
```

Other costs table section
```
502 \newcommand{\octablesection}[1]{%
503   \newcounter{@occost\arabic{#1}}
504   \edef\ocrowtemp{}
505   \renewcommand\theadfont{\normalsize\bfseries}
506   \begin{xltabular}{\textwidth}{|>{\columncolor{tablegrey}}l|r|X|}
507     \hline
508     \rowcolor{tablegrey}
509     \multicolumn{3}{|l|}{\bfseries\the\value{#1} %
510       \disptoken{@pShortName\arabic{#1}}} \\
511     \hline
512     \rowcolor{tablegrey}
513     & \thead{Cost (€)} & \thead{Justification} \\
514     \hline
515     % For each other cost
516     \whiledo%
517       {\value{@occost\arabic{#1}}<\numexpr\value%
518       {@pOtherCosts\arabic{#1}}-1}{%
519     \stepcounter{@occost\arabic{#1}}%
520     \octablerow{#1}{@occost\arabic{#1}}%
521     }%
522     \stepcounter{@occost\arabic{#1}}%
523     \octablerow{#1}{@occost\arabic{#1}}%
524   \end{xltabular}
525 }
```

Other costs table row
```
526 \newcommand{\octablerow}[2]{%
527   \thead{Internally invoiced\\ goods and services} &
528   \disptoken{@ocCost\arabic{#1}.\arabic{#2}} &
529   \disptoken{@ocJustification\arabic{#1}.\arabic{#2}}
530   \\ \hline
531 }
```

Purchase costs

```
532 \newcommand{\purchasecost}[8]{%
533   \stepcounter{@pPurchaseCosts\getPnum{#1}}
534   \expandafter\xdef\csname @pcTravelCost\getPnum{#1}\endcsname{#2}%
535   \expandafter\xdef\csname %
```

```
536     @pcTravelJustification\getPnum{#1}\endcsname{#3}%
537   \expandafter\xdef\csname @pcEquipmentCost\getPnum{#1}\endcsname{#4}%
538   \expandafter\xdef\csname %
539     @pcEquipmentJustification\getPnum{#1}\endcsname{#5}%
540   \expandafter\xdef\csname @pcOtherCost\getPnum{#1}\endcsname{#6}%
541   \expandafter\xdef\csname %
542     @pcOtherJustification\getPnum{#1}\endcsname{#7}%
543   \expandafter\xdef\csname @pcRemainingCost\getPnum{#1}\endcsname{#8}%
544   \expandafter\xdef\csname %
545     @pcTotalCost\getPnum{#1}\endcsname%
546     {\the\numexpr #2+#4+#6+#8 \relax}% TO DO
547 % \expandafter\xdef\csname @pcTotalCost\getPnum{#1}\endcsname{100}%
548 }
```

Purchase costs table
```
549 \newcommand{\makepurchasecoststable}{%
550   \newcounter{@pcparticipant}
551   \begin{center}
552     % For each participant
553     \whiledo{\value{@pcparticipant}<\value{@pcount}}{%
554       \stepcounter{@pcparticipant}%
555       \ifthenelse%
556         {\value{@pPurchaseCosts\arabic%
557         {@pcparticipant}}>0}% If they have purchase costs
558       {\pctablesection%
559       {@pcparticipant}}% Print their purchase costs table
560       {}% Otherwise, do nothing
561     }%
562   \end{center}
563 }
```

Purchase costs table section
```
564 \newcommand\swap[2]{
565   \let\pcTemp#1
566   \let#1#2
567   \let#2\pcTemp
568 }
569 \newcommand{\pctablesection}[1]{%
570   \newcounter{@pccost\arabic{#1}}
571   % Define table rows
572   \def\pcRowA{%
573     \thead{Travel and subsistence} &
574     \disptoken{@pcTravelCost\arabic{#1}} &
575     \disptoken{@pcTravelJustification\arabic{#1}}
576   }%
577   \edef\pcCostA{\disptoken{@pcTravelCost\arabic{#1}}}%
578   \def\pcRowB{%
579     \thead{Equipment} &
580     \disptoken{@pcEquipmentCost\arabic{#1}} &
581     \disptoken{@pcEquipmentJustification\arabic{#1}}
582   }%
583   \edef\pcCostB{\disptoken{@pcEquipmentCost\arabic{#1}}}%
584   \def\pcRowC{%
585     \thead{Other goods, works\\ and services} &
586     \disptoken{@pcOtherCost\arabic{#1}} &
```

```
587      \disptoken{@pcOtherJustification\arabic{#1}}
588    }%
589    \edef\pcCostC{\disptoken{@pcOtherCost\arabic{#1}}}%
590    % Sort table rows
591    \ifthenelse{\pcCostA<\pcCostC}{%
592      \swap{\pcRowA}{\pcRowC}
593      \swap{\pcCostA}{\pcCostC}
594      }{}
595    \ifthenelse{\pcCostA<\pcCostB}{%
596      \swap{\pcRowA}{\pcRowB}
597      \swap{\pcCostA}{\pcCostB}
598      }{}
599    \ifthenelse{\pcCostB<\pcCostC}{%
600      \swap{\pcRowC}{\pcRowB}
601      \swap{\pcCostC}{\pcCostB}
602      }{}
603
604    \renewcommand\theadfont{\normalsize\bfseries}
605    \begin{xltabular}{\textwidth}{|>{\columncolor{tablegrey}}p{43mm}|r|X|}
606      \hline
607      \rowcolor{tablegrey}
608      \multicolumn{3}{|l|}{\bfseries\the\value{#1} %
609        \disptoken{@pShortName\arabic{#1}}} \\
610      \hline
611      \rowcolor{tablegrey}
612      & \thead{Cost (€)} & \thead{Justification} \\
613      \hline
614      % Output purchase costs in sorted order
615      \pcRowA \\ \hline
616      \pcRowB \\ \hline
617      \pcRowC \\ \hline
618      % Output remaining and total costs
619      \thead{Remaining purchase\\ costs (<15\% of pers.\\ costs)}
620        & \disptoken{@pcRemainingCost\arabic{#1}} \\
621      \cline{1-2}
622      \thead{Total} & \disptoken{@pcTotalCost\arabic{#1}} \\
623      \cline{1-2}
624    \end{xltabular}
625 }
```

In-kind contributions

```
626 \newcommand{\inkindcontribution}[5]{%
627    \stepcounter{@pInkindContributions\getPnum{#1}}
628    \expandafter\xdef\csname %
629      @ikcThirdPartyName\getPnum{#1}.\arabic%
630      {@pInkindContributions\getPnum{#1}}\endcsname{#2}%
631    \expandafter\xdef\csname %
632      @ikcCategory\getPnum{#1}.\arabic%
633      {@pInkindContributions\getPnum{#1}}\endcsname{#3}%
634    \expandafter\xdef\csname %
635      @ikcCost\getPnum{#1}.\arabic%
636      {@pInkindContributions\getPnum{#1}}\endcsname{#4}%
637    \expandafter\xdef\csname %
638      @ikcJustification\getPnum{#1}.\arabic%
```

```
639        {@pInkindContributions\getPnum{#1}}\endcsname{#5}%
640 }
```

In-kind contributions table

```
641 \newcommand{\makeinkindcontributionstable}{%
642   \newcounter{@ikcparticipant}
643   \begin{center}
644     % For each participant
645     \whiledo{\value{@ikcparticipant}<\value{@pcount}}{%
646       \stepcounter{@ikcparticipant}%
647       \ifthenelse%
648         {\value{@pInkindContributions\arabic%
649         {@ikcparticipant}}>0}% If they have in-kind contributions
650       {\ikctablesection%
651         {@ikcparticipant}}% Print their in-kind contributions table
652       {}% Otherwise, do nothing
653     }%
654   \end{center}
655 }
```

In-kind contributions table section

```
656 \newcommand{\ikctablesection}[1]{%
657   \newcounter{@ikccost\arabic{#1}}
658   \edef\ikcrowtemp{}
659   \renewcommand\theadfont{\normalsize\bfseries}
660   \begin{xltabular}{\textwidth}%
661     {|>{\raggedright}p{40mm}|>{\raggedright}p{35mm}|r|X|}
662     \hline
663     \rowcolor{tablegrey}
664     \multicolumn{4}{|l|}{\bfseries\the\value{#1} %
665       \disptoken{@pShortName\arabic{#1}}} \\
666     \hline
667     \rowcolor{tablegrey}
668     \thead{Third party name} & \thead{Category} &
669     \thead{Cost (€)} & \thead{Justification} \\
670     \hline
671     % For each in-kind contribution
672     \whiledo%
673       {\value{@ikccost\arabic{#1}}<\numexpr\value%
674       {@pInkindContributions\arabic{#1}}-1}{%
675     \stepcounter{@ikccost\arabic{#1}}%
676     \ikctablerow{#1}{@ikccost\arabic{#1}}%
677     }%
678     \stepcounter{@ikccost\arabic{#1}}%
679     \ikctablerow{#1}{@ikccost\arabic{#1}}%
680   \end{xltabular}
681 }
```

In-kind contributions table row

```
682 \newcommand{\ikctablerow}[2]{%
683   \disptoken{@ikcThirdPartyName\arabic{#1}.\arabic{#2}} &
684   \disptoken{@ikcCategory\arabic{#1}.\arabic{#2}} &
685   \disptoken{@ikcCost\arabic{#1}.\arabic{#2}} &
686   \disptoken{@ikcJustification\arabic{#1}.\arabic{#2}}
687   \\ \hline
688 }
```

Summary canvas

```
689 \RequirePackage{pdflscape} % PDF landscape for Summary canvas
690 \newenvironment{summarycanvas}{%
691   \begin{tcbraster}[%
692     raster columns=3,
693     ]%
694 }{%
695   \end{tcbraster}%
696 }
697 \newenvironment{summarybox}[1]{%
698   \begin{tcolorbox}[%
699     colframe=summaryblue,
700     colbacktitle=summaryblue,
701     %height fill,
702     fonttitle=\bfseries\sffamily,
703     halign title=center,
704     title={#1}
705     ]
706 }{%
707   \end{tcolorbox}%
708 }
```

Code for sideways figures, adapted from https://tex.stackexchange.com/a/307142/22603. Copyright 2016 John Kormylo and licensed under the Creative Commons Attribution-ShareAlike 4.0 license (CC BY-SA 4.0), per personal communication with Tristan Miller on 2023-12-02.

```
709 \RequirePackage{environ}
710 \newcounter{abspage}% \thepage not reliab
711 \newcommand{\newSFPage}[1]% #1 = \theabspage
712   {\global\expandafter\let\csname SFPage@#1\endcsname\null}
713 \NewEnviron{SidewaysFigure}{\begin{figure}[p]
714 \protected@write\@auxout%
715   {\let\theabspage=\relax}% delays expansion until shipout
716   {\string\newSFPage{\theabspage}}%
717 \ifdim\textwidth=\textheight
718   \rotatebox{90}{\parbox[c][\textwidth][c]{\linewidth}{\BODY}}%
719 \else
720   \rotatebox{90}{\parbox[c][\textwidth][c]{\textheight}{\BODY}}%
721 \fi
722 \end{figure}}
723 \AddToHook{shipout/background}{% check if sideways figure on this page
724   \put(1in,-1in){%
725     \ifdim\textwidth=\textheight
726       \stepcounter{abspage}% already in landscape
727     \else
728       \@ifundefined{SFPage@\theabspage}{}{\global\pdfpageattr{/Rotate 0}}%
729       \stepcounter{abspage}%
730       \@ifundefined{SFPage@\theabspage}{}%
731         {\global\pdfpageattr{/Rotate 90}}%
732     \fi}%
733     }
```

Font setup

```
734 \RequirePackage{newtxtext} % Use Times for main text
735 \RequirePackage{newtxmath} % Use Times for math
736 \renewcommand*\ttdefault{lmvtt} % Latin Modern Typewriter Proportional
```

Page header and footer

```
737 \RequirePackage{lastpage}
738 \RequirePackage{fancyhdr}
739 \newcommand{\Paragraph}[1]{\vspace*{-.45em}\paragraph{#1.}}
740 \pagestyle{fancy}
741 \renewcommand{\headrulewidth}{0pt} % Remove line at top
742 \lhead{\sffamily\scriptsize Call: \@callidentifier\ --- \@callname}
743 \rhead{}
744 \chead{}
745 \cfoot{\raisebox{\dimexpr(-\height+\ht\strutbox-\dp\strutbox)/2}{%
746     \begin{tcolorbox}[nobeforeafter,
747                       fontupper=\scriptsize\sffamily,
748                       colback=footergrey,
749                       boxrule=0.75pt,
750                       halign=center,
751                       boxsep=0mm,
752                      ]%
753       \strut Part B -- Page \thepage\ of \pageref*{LastPage}%
754     \end{tcolorbox}}%
755   }%
756 }
```

Titles and section headings

Document title

```
757 \def\@maketitle{%
758   \newpage%
759   \noindent%
760   \large%
761   \framebox[\textwidth]%
762     {\null\hfill\textsf{\textbf{\textsc{\@title}}}\hfill\null}%
763   \par
764   \vskip 1.5em\thispagestyle{fancy}%
765   \ifdefined\@calltopic
766   \vspace{-5mm}
767   \begin{center}
768     Topic: \@calltopic
769   \end{center}
770   \fi
771 }
```

Format page limits used by the Horizon Europe template

```
772 \NewDocumentCommand{\showpagelimit}{m}
773 {%
774   \ifheria@showinstructions%
775   {\normalfont\sffamily\itshape [e.g.\ #1]}%
776   \fi%
777 }
```

Format "tags" used by the Horizon Europe template

```
778 \ExplSyntaxOn
779 \NewDocumentCommand{\hetag}{mm}
780  {%
781    \textcolor{taggrey}{\normalfont\sffamily\footnotesize%
782    \clist_map_inline:nn { #2 } { \# #1 ##1 #1 \# ~}%
783    }%
784  }
785 \ExplSyntaxOff
786 \NewDocumentCommand{\opentag}{m}{\hetag{@}{#1}}
787 \NewDocumentCommand{\closetag}{m}{\noindent\hetag{§}{#1}}
```

Format section titles, with optional opening and closing tags

```
788 \RequirePackage[explicit]{titlesec}
789 \titleformat{\section}
790    {\normalfont\normalsize\bfseries\sffamily}%
791    {\thesection}{1em}{#1 \sectiontag\sectionpagelimit}
792 \titleformat{\subsection}
793    {\normalfont\normalsize\bfseries\sffamily}%
794    {\thesubsection}{1em}{#1 \sectiontag\sectionpagelimit}
795 \titleformat{\subsubsection}
796    {\normalfont\normalsize\bfseries\sffamily}%
797    {\thesubsubsection}{1em}{#1 \sectiontag\sectionpagelimit}
798 \NewDocumentCommand{\extendedsection}{sO{#3}mooo}{%
799    \IfValueTF{#4}%
800      {\renewcommand{\sectiontag}{\opentag{#4}}}%
801      {\renewcommand{\sectiontag}{}}%
802    \IfValueTF{#6}%
803      {\renewcommand{\sectionpagelimit}{\showpagelimit{#6}}}%
804      {\renewcommand{\sectionpagelimit}{}}%
805    \IfValueT{#5}{%
806      \closetag{#5}%
807    }%
808    \IfBooleanTF{#1}{%
809      \latexsection*{#3}%
810    }{%
811      \latexsection[#2]{#3}%
812    }%
813 }
814 \NewDocumentCommand{\extendedsubsection}{sO{#3}mooo}{%
815    \IfValueTF{#4}%
816      {\renewcommand{\sectiontag}{\opentag{#4}}}%
817      {\renewcommand{\sectiontag}{}}%
818    \IfValueTF{#6}%
819      {\renewcommand{\sectionpagelimit}{\showpagelimit{#6}}}%
820      {\renewcommand{\sectionpagelimit}{}}%
821    \IfValueT{#5}{%
822      \closetag{#5}%
823    }%
824    \IfBooleanTF{#1}{%
825      \latexsubsection*{#3}%
826    }{%
827      \latexsubsection[#2]{#3}%
828    }%
829 }
```

```
830 \NewDocumentCommand{\extendedsubsubsection}{sO{#3}mooo}{%
831   \IfValueTF{#4}%
832     {\renewcommand{\sectiontag}{\opentag{#4}}}%
833     {\renewcommand{\sectiontag}{}}%
834   \IfValueTF{#6}%
835     {\renewcommand{\sectionpagelimit}{\showpagelimit{#6}}}%
836     {\renewcommand{\sectionpagelimit}{}}%
837   \IfValueT{#5}{%
838     \closetag{#5}%
839   }%
840   \IfBooleanTF{#1}{%
841     \latexsubsubsection*{#3}%
842   }{%
843     \latexsubsubsection[#2]{#3}%
844   }%
845 }
846 \newcommand{\sectiontag}{}
847 \newcommand{\sectionpagelimit}{}
848 \AtBeginDocument{%
849   \NewCommandCopy{\latexsection}{\section}%
850   \RenewCommandCopy{\section}{\extendedsection}%
851   \NewCommandCopy{\latexsubsection}{\subsection}%
852   \RenewCommandCopy{\subsection}{\extendedsubsection}%
853   \NewCommandCopy{\latexsubsubsection}{\subsubsection}%
854   \RenewCommandCopy{\subsubsection}{\extendedsubsubsection}%
855 }
```

Official Horizon Europe template instructions

```
856 \RequirePackage[inline]{enumitem} % For custom bullets
857 \RequirePackage[normalem]{ulem} % For underlined text
858 \RequirePackage{kvoptions}
859 \SetupKeyvalOptions{
860   family=heria,
861   prefix=heria@
862 }
863 \DeclareBoolOption{showinstructions}
864 \ProcessKeyvalOptions*
865
866 \RequirePackage{twemojis}
867 \RequirePackage{xspace}
868 \newcommand{\twarn}{\twemoji{warning}\xspace}
869 \RequirePackage{verbatim}
870 \newenvironment{instructions}{%
871   \begin{tcolorbox}[fontupper=\sffamily,
872                     fonttitle=\sffamily\bfseries,
873                     colback=blue!5!white,
874                     colframe=blue!75!black,
875                     parbox=false,
876                     breakable
877   ]%
878   }{%
879   \end{tcolorbox}%
880   }
```

```
881
882 \newcommand{\heinstructions}[1]{%
883   \ifheria@showinstructions%
884   \begin{instructions}%
885     \input{hi-#1}%
886   \end{instructions}%
887   \fi%
888 }
```