

ETSI Drafting Rules (EDRs)

**Version adopted by ETSI Director-General
on 20 May 2014**

What are the ETSI Drafting Rules?

The present document specifies rules for the structure and drafting of documents intended to become ETSI deliverables. These rules complement the ETSI Technical Working Procedures (TWP) (<http://portal.etsi.org/directives/home.asp>) and are intended to ensure that such documents are drafted in as uniform a manner as is practicable, irrespective of the technical content.

NOTE: A free-standing HTML version of the present document is available from [editHelp!](#) (Download [EDRs_Navigator.chm](#) for a more user-friendly version of the ETSI Drafting Rules).

1 ETSI deliverable

1.1 All ETSI deliverable types

To draft an ETSI deliverable one of the following type shall be chosen:

- The European Standard (EN) is the formal output for standardization at the European level and shall be chosen when the document is intended to meet needs that are specific to Europe and requires transposition into national standards or when the drafting of the document is required under an EC/EFTA mandate.
- The Technical Specification (TS) is the preferred deliverable when the document contains normative provisions and where rapid time to "market", validation and maintenance are essential. A TS may later be converted to an ES or an EN, or be used to publish the contents of a draft ES being sent for vote or a draft EN being sent for Public Enquiry or vote.
- The ETSI Guide (EG) shall be chosen when the document contains informative elements providing guidance on handling of technical standardization activities in the whole or major parts of the Technical Organization.
- The ETSI Standard (ES) shall be chosen when the document contains normative provisions and it is considered preferable or necessary that the document be submitted to the whole ETSI membership for its approval.
- The Technical Report (TR) is the default deliverable when the document contains only informative elements.
- The Special Report (SR) shall be used for any other kind of document containing informative elements of general ETSI member or public interest. The SR is also the appropriate deliverable type for a deliverable with dynamic content generated by a software application on the ETSI web site on the basis of database content.
- The Group Specification (GS) is an ETSI deliverable, containing either specifications and/or information elements, produced by an Industry Specification Group.

ETSI skeletons documents (pre-structured deliverable templates) are available from [editHelp!](#) website. Further information can be found in ETSI Directives.

1.2 Objective

The objective of an ETSI deliverable is to define clear and unambiguous provisions in order to facilitate international trade and communication. To achieve this objective, the ETSI deliverable shall:

- be as complete as necessary within the limits specified by its scope;
- be consistent, clear and accurate;
- provide a framework for future technological development; and
- be comprehensible to qualified persons who have not participated in its preparation.

1.3 Homogeneity

Uniformity of structure, of style and of terminology shall be maintained not only within each ETSI deliverable, but also within a series of associated ETSI deliverables. The structure of associated ETSI deliverables and the numbering of their clauses shall, as far as possible, be identical. Analogous wording shall be used to express analogous provisions; identical wording shall be used to express identical provisions.

The same term shall be used throughout each ETSI deliverable or series of ETSI deliverables to designate a given concept. The use of an alternative term (synonym) for a concept already defined shall be avoided. As far as possible, only one meaning shall be attributed to each term chosen.

These requirements are particularly important not only to ensure comprehension of the ETSI deliverable but also to derive the maximum benefit available through automated text-processing techniques.

1.4 Consistency

In order to achieve the aim of consistency within the complete body of ETSI deliverables, the text of every ETSI deliverable shall be in accordance with the relevant provisions of existing basic ETSI deliverables. This relates particularly to:

- standardized terminology;
- principles and methods of terminology;
- quantities, units and their symbols;
- abbreviations;
- tables and figures numbering;
- bibliographic references; and
- graphical symbols.

In addition, for specific technical aspects, the relevant provisions of general ETSI deliverables dealing with the following subjects shall be respected:

- limits;
- tolerance of dimensions and uncertainty of measurement;
- preferred numbers;
- statistical methods; and
- environmental conditions and associated tests.

1.5 Equivalence of official language versions

ETSI deliverables shall be in the English language only.

1.6 Fitness for implementation as a national, regional or international standard

The content of an ETSI deliverable shall be drawn up in such a way as to facilitate its direct application and its adoption without change as a national, regional or international standard (see ETSI Rules of Procedure, article 13.7, in ETSI Directives).

1.7 Planning

Rules for the planning of new work items are given in ETSI Technical Working Procedures, annex C (see ETSI Directives). When creating a new work item, it is useful to consider whether the end result will be one or more ETSI deliverables.

EXAMPLE: A multi-part deliverable.

In the case where multiple deliverables are expected, some thought should be given to the intended structure and any interrelationships between the various components as this facilitates work planning in both the Technical Body (TB) and in the ETSI Secretariat.

In the case of a multi-part ETSI deliverable, a list of the intended parts together with their titles should be drawn up, (see also clause 1.8 of the present document). The drafting rules given in the present document shall be applied from the very beginning of the work and throughout all subsequent stages to avoid delay at any stage.

1.8 Subdivision of the subject matter

ETSI deliverables are so diverse that no universally acceptable rules can be established for the subdivision of the subject matter.

However, as a general rule, an individual ETSI deliverable shall be prepared for each subject to be standardized and published as a complete entity. In specific cases and for practical reasons, for example:

- the ETSI deliverable is likely to become too voluminous;
- subsequent portions of the content are interlinked;
- portions of the ETSI deliverable could be referred to in regulations; or
- portions of the ETSI deliverable are intended to serve for certification purposes.

The ETSI deliverable may be split into separate parts under the same number. This has the advantage that each part can be changed separately when the need arises.

In particular, the aspects of a product which will be of separate interest to different parties (e.g. manufacturers, operators, certification bodies, legislative bodies) shall be clearly distinguished, preferably as parts of an ETSI deliverable or as separate ETSI deliverables.

Such individual aspects are, for example:

- performance requirements;
- maintenance and service requirements; and
- quality assessment.

1.8.1 Subdivision of the subject matter within a series of parts

There are two systems in use for subdividing into parts:

- a) Each part deals with a specific aspect of the subject and can stand alone.
- b) There are both common and specific aspects to the subject. The common aspects shall be given in part 1. Specific aspects (which may modify or supplement the common aspects and, therefore, cannot stand alone) shall be given in individual parts.

Where the system described in b) is used, care shall be taken that the references from one part to another are always to the appropriate version. There are two ways to achieve this:

- If reference is made to a particular element, the reference shall be specific (see clause 2.10.1.3).
- Since the complete series of parts is normally under the control of the same Technical Body, the use of non-specific references (see clause 2.10.1.4) is permitted, provided that corresponding changes are implemented simultaneously in all parts.

The use of non-specific references requires a high degree of discipline by the Technical Body responsible for the ETSI deliverable.

1.8.2 Parts and sub-parts

The number of a part shall be indicated by Arabic numerals, beginning with 1 (limited to 2 digits), following the ETSI deliverable number and preceded by a hyphen, for example:

- ES 201 999-1, ES 201 999-2, EN 300 356-33, EN 300 356-34.

The number of a sub-part shall be indicated by Arabic numerals, beginning with 1-1 (limited to 2 digits), following the ETSI deliverable number and preceded by a hyphen, for example:

- ES 201 999-1-1, ES 201 999-1-2, EN 300 356-33-10, EN 300 356-33-11.

1.9 Legal master of an ETSI deliverable

ETSI deliverables are made publicly available by ETSI in PDF format. Other formats may also be available.

From a legal point of view, the official version of a document is the one which is recognized by the author as being the definitive and mature version of his/her work at a certain date. The official version of a document constitutes a reference from which it is possible to identify that amendments have been made.

In ETSI, the reference version of an ETSI deliverable (until further amendments are made) is the one that has been checked by the Secretariat and incorporates the amendments resulting from the approval process prescribed for the ETSI deliverable in the Technical Working Procedures. The reference version of an ETSI deliverable is the Portable Document Format (PDF) kept on a specific network drive within the ETSI Secretariat.

2 Structure of an ETSI deliverable

An ETSI deliverable need not contain all the normative technical elements shown in table 1 and it may contain others than those shown. Both the nature of the normative technical elements and their sequence are determined by the nature of the ETSI deliverable in question.

In order to comply with the structure of an ETSI deliverable, the use of the appropriate ETSI "skeleton document" is mandatory. Skeletons are available from [editHelp!](#) website.

Table 1: Typical arrangement of elements in an ETSI deliverable

Legend: **Bold type** = required element
 Unbold type (regular) = optional element
 Upright type = normative element
Italic type = informative element

| Type of element | Arrangement of elements in an ETSI deliverable | Reference | Permitted content of element(s) in an ETSI deliverable |
|---------------------------|-----------------------------------------------------|-------------------|--------------------------------------------------------|
| Informative preliminary | Cover page | clause 2.1 | Title |
| | <i>Table of contents for clauses</i> | clause 2.3.1 | <i>(generated content)</i> |
| | <i>Tables of contents for figures and/or tables</i> | clause 2.3.2 | <i>(generated content)</i> |
| | Intellectual Property Rights Foreword | clause 2.4 | Text |
| | Transposition (ENs only) | clause 2.5 | <i>Note(s)</i> |
| | Modal verbs terminology | clause 2.5.1 | <i>Table</i> |
| Informative general | Executive summary | clause 2.6 | <i>Text</i> |
| | Introduction | clause 2.7 | <i>Figure(s)</i> |
| | | clause 2.8 | <i>Table(s)</i> |
| | | | <i>Note(s)</i> |
| Normative general | Scope | clause 2.9 | Text |
| | <i>Informative Reference(s)</i> | clause 2.10.2 | <i>Figure(s)</i> |
| | <i>Definition(s)</i> | clause 2.11.1 | <i>Table(s)</i> |
| | <i>Symbol(s) and abbreviation(s)</i> | clause 2.11.2 | <i>Note(s)</i> |
| Normative technical | Normative References | clause 2.10 | Normative Reference(s) |
| | Requirements | clauses 3 and 3.2 | Text |
| | Normative annex(s) | clause 2.13.1 | <i>Figure(s)</i> <i>Table(s)</i> <i>Note(s)</i> |
| Informative supplementary | <i>Informative guidance</i> | clause 2.13.2 | <i>Text</i> |
| | <i>Informative annex(s)</i> | | <i>Figure(s)</i> <i>Table(s)</i> <i>Note(s)</i> |
| | <i>Bibliography</i> | clause 2.14 | <i>Additional informative reading material</i> |
| | <i>Change history/Change request (history)</i> | clause 2.15 | <i>Table</i> |
| | History | clause 2.16 | Table |

2.1 Cover page

The cover page shall contain the title of the ETSI deliverable, together with the version number and the date of publication.

The wording of the title shall be established by the Technical Body with the greatest care. While being as concise as possible, it shall indicate, without ambiguity, the subject matter of the ETSI deliverable in such a way as to distinguish it from that of other ETSI deliverables, without going into unnecessary detail. Any necessary additional particulars shall be given in the scope.

The title shall be composed of separate elements, each as short as possible, proceeding from the general to the particular. In general, not more than the following three elements should be used:

- a) an introductory element (optional) indicating the general field to which the ETSI deliverable belongs; it should not be based on the name of the Technical Body which drafted the deliverable, especially if this is too broad to add much value;
- b) a main element (obligatory) indicating the principal subject treated within that general field;
- c) a complementary element (optional) indicating the particular aspect of the principal subject or giving details that distinguish the ETSI deliverable from other ETSI deliverables, or other parts of the same ETSI deliverable.

The ETSI Secretariat is responsible for the final preparation of the cover page.

For multi-part deliverables, all the individual titles in a series of parts shall contain the same introductory element (if present) and main element, while the complementary element shall be different in each case in order to distinguish the parts from one another. The complementary element shall be preceded in each case by the designation "Part:" and "Sub-part:".

For endorsement of documents from other standards organizations, see clause 9.

2.2 Second page

The content of the second page is provided by the ETSI Secretariat and shall not be modified. The following shall be filled in:

- Work Item number
- Keywords of the deliverable

2.3 Table of contents

2.3.1 Table of contents for clauses

The table of contents shall be generated automatically and shall not be set manually. The title shall be "Contents".

- Use **TT** style for the title.
- Use the field `{TOC \o\w}` for the table itself.

NOTE 1: The ETSI Secretariat is responsible for the final layout of the Table of Contents.

NOTE 2: To unlock the Table of Contents: select the Table of Contents, click simultaneously: Ctrl + Shift + F11.
To lock it: reselect the Table of Contents and then click simultaneously: Ctrl + F11.

2.3.2 Tables of contents for figures and/or tables

The tables of contents for figures and/or tables are also allowed. They shall be generated automatically and not be set manually. If present, they shall appear after the table of contents for clauses "Contents". The titles shall be "List of figures" and/or "List of tables" the clause shall be unnumbered.

- Use **TT** style for the title.
- Use the field `{TOC \t "TF" \c}` for the list of figures and the field `{TOC \t "TH" \c}` for the list of tables.

2.4 Intellectual Property Rights (IPRs)

The "Intellectual Property Rights (IPR)" is the first unnumbered clause. It is a required, informative element.

The content, provided by the ETSI Secretariat, shall not be modified and can be found in the skeleton documents available from [editHelp!](#) website.

2.5 Foreword

The "Foreword" is the second unnumbered clause and on the same page as the IPR clause. It is a required, informative element. It shall not contain requirements, figures or tables, except for the transposition table (see clause 2.5.1).

It shall always contain a general part, provided by the ETSI Secretariat, giving information on:

- the designation and name of the Technical Body that prepared the ETSI deliverable; and
- information regarding the approval of the ETSI deliverable.

Optionally, a specific part of the Foreword may be provided by the Technical Body including as many of the following as is appropriate:

- an indication of any other organization that has contributed to the preparation of the ETSI deliverable;
- a statement that the ETSI deliverable cancels and replaces other documents in whole or in part;
- a statement of significant technical changes from the previous version of the ETSI deliverable;
- the relationship of the ETSI deliverable to other ETSI deliverables or other documents;
- the existence of an electronic attachment accompanying the ETSI deliverables, if this is not mentioned elsewhere.

For multi-part deliverables, there are two options for explaining the relationship between the various parts in the series. Either:

- a) the first part shall include in its Foreword an explanation of the intended structure of the series. In the "Foreword" of each part belonging to the series, a reference shall be made to the titles of all other parts, if they are known;
- b) a specific part (part 1) shall provide an explanation of the intended structure of the series, together with details of the titles of the various parts and sub-parts. Each time a new part or sub-part of the deliverable is made publicly available, the Secretariat shall publish a new version of part 1 showing the details of the new document.

Option b) is the preferred option.

Examples and textblocks to be used can be found in the appropriate skeleton document available from [editHelp!](#) website.

2.5.1 Transposition table

Each European Standard (EN) shall contain a transposition table as the last element in the Foreword. This element is provided by the Secretariat and its purpose is described in the ETSI Technical Working Procedures, clause 2.4 (see ETSI Directives).

2.6 Modal verbs terminology

The "Modal verbs terminology" appears after the "Foreword", it shall not be numbered. It is a required informative element.

The "Modal verbs terminology" specifies how the modal verbs shall be used within the ETSI deliverable (see also clause 3.2).

The content, provided by the ETSI Secretariat, shall not be modified and can be found in the skeleton documents available from [editHelp!](#) website.

2.7 Executive summary

The "Executive summary" appears after the "Modal verbs terminology" and before the "Introduction" and shall not be numbered. It is an optional informative element and shall not contain requirements.

The "Executive summary" is used, if required, to summarize the ETSI deliverable. It contains enough information for the readers to become acquainted with the full document without reading it. It is usually one page or shorter.

2.8 Introduction

The "Introduction" shall appear after the "Executive summary" (if present). It is an optional informative and shall not contain requirements.

The "Introduction" is used, if required, to give specific information or commentary about the technical content of the ETSI deliverable, and about the reasons prompting its preparation.

It shall not be numbered unless there is a need to create numbered subdivisions. In this case, it shall be numbered 0 with clauses being numbered 0.1, 0.2, etc. Any numbered figure, table or displayed formula shall be numbered normally beginning with 1 (see also clause 2.12.1).

2.9 Scope

The "Scope" shall start on a new page and be clause number 1 of each ETSI deliverable. It is a required informative element and shall not contain requirements.

The "Scope" defines without ambiguity the subject of the ETSI deliverable and the aspect(s) covered, thereby indicating the limits of applicability of the ETSI deliverable or particular parts of it.

In deliverables that are subdivided into part, the scope of each part shall define the subject of that part of the deliverable only.

The "Scope" shall be succinct so that it can be used as a summary for bibliographic purposes.

This element shall be worded as a series of statements of fact.

Forms of expression such as the following shall be used:

"The present document

- specify: the functional requirements for ..."
 a method of ..."
 the characteristics of ...";
- establishes a system for ..."
 general principles for ...";

- gives guidelines for ...";
- gives terms and definitions ...".

Statements of applicability of the ETSI deliverable shall be introduced by the following wording:

- "The present document is applicable to ...".

2.10 References

"References" shall be clause number 2 of each ETSI deliverable. It is a required element and shall not contain requirements.

The "References" clause lists the documents referred to in the body of the ETSI deliverable. It consists of clause 2.1 "Normative references" and clause 2.2 "Informative references".

ETSI deliverables may include references to ETSI documents and also to documents of non-ETSI organizations. In the second case it shall be ensured that implementers and evaluators of deliverables standardized by ETSI, and other interested parties, have access to all materials needed to implement those deliverables. These rules apply to documents that are produced in accordance with the ETSI Rules of Procedures but also to any deliverables that are developed elsewhere that are sent to ETSI to be standardized.

These rules are pointed toward normative references because they are functionally a part of the ETSI deliverable itself. It is best practice to follow these principles for informative references as well, but more flexibility is permitted for informative references because these documents are not strictly necessary for the implementation of an ETSI deliverable.

Reproduction of elements from other documents is deprecated (i.e. referencing is the preferred method in ETSI).

The textblock to be used for the "References" clause can be found in the appropriate skeleton document available from [editHelp!](#) website.

2.10.1 Normative references

The "Normative References" clause is numbered 2.1 and lists references to documents to which conformance is necessary to claim compliance to the ETSI deliverable containing the reference. Normative references are mentioned in the body of the ETSI deliverable and shall be indicated by an appropriate wording which underlines the normative impact of the reference within the document.

EXAMPLE: "the test method shall be as described in Recommendation ITU-T M.50",
Recommendation ITU-T M.50 is a normative reference.

In considering whether a normative reference to a document should be included in an ETSI deliverable, preference should be given to standards and specifications by recognized standards development organizations and to the directives of the European Union.

Normative referencing of documents under the possession of other organizations is allowed where the use of such normative references has been justified by the Technical Body in charge of development of the ETSI deliverable containing the reference. Where an objection to the use of a normative reference has been raised within Technical Body discussion, this shall be noted in the minutes or some other record that will be available to ETSI Members.

Normative references list shall contain:

- the issuing organization;
- the document identity;
- the edition or version number or date of publication (for Harmonized Standards, see clause 8.4);
- the title.

The list shall not include:

- referenced documents which are not publicly available (see clause 2.10.1.1);
 - referenced documents which are only cited in an informative manner (such references shall be listed in clause 2.2 "Informative references");
 - other reading material not explicitly referred to in the body of the ETSI deliverable (such publications have to be listed in an informative annex entitled "Bibliography" see clause 2.14);
 - referenced documents not available in English language.
- Use the **EX** style, enclose the number in square brackets and separate it from the title with a tab (you may use sequence fields for automatically numbering references, see clause 6.9.2. (See example).

EXAMPLE:

- [1] ETSI EN 301 025-3: "Electromagnetic compatibility and Radio spectrum Matters (ERM); VHF radiotelephone equipment for general communications and associated equipment for Class "D" Digital Selective Calling (DSC); Part 3: Harmonized EN under article 3.3 (e) of the R&TTE Directive".
- [2] ETSI EN 300 163: "Television systems; NICAM 728: transmission of two-channel digital sound with terrestrial television systems B, G, H, I, K1 and L".

2.10.1.1 Public availability of the normative references

A normative reference shall be publicly available in English language during the approval phases, at the time of publication and for the duration of the expected lifespan of the ETSI deliverable. If public availability cannot be guaranteed after publication of the ETSI deliverable has occurred, the originating body of the document shall be requested to provide ETSI with the right to make available the text; the ETSI Secretariat shall establish and maintain a list of the referenced documents and the relevant external bodies, for document tracking and cross-referencing purposes, and keep the necessary liaison with the originating body.

If normative references in an ETSI deliverable are not publicly available during the drafting stage, the deliverable shall not be submitted to an approval procedure until the reference is publicly available or the text shall be made available to be held by ETSI.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

2.10.1.2 Test suites availability

If conformance with a specification that includes normative references requires the use of a test suite, the test suite for the normatively referenced part should also be made publicly available. Any such test suite should be usable by potential implementers on terms at least as favourable as those contained in ETSI Rules of Procedure, annex 6 (see ETSI Directives).

2.10.1.3 Specific normative references

A "specific" reference is a reference to the particular revision or version of the normatively referenced document. Specific references are favoured because they lead to permanence and stability in ETSI deliverables. Normative references generally should be limited to documents that are finally approved by the organizations responsible for issuing them.

Unlike ETSI, many other Standards bodies, (e.g. ISO, CEN, CENELEC, etc.) have a policy of regularly reviewing/maintaining their deliverables. Their procedures also involve the automatic withdrawal of the previous version. It therefore follows that any ETSI deliverable making specific references to such documents will need to be revised.

2.10.1.4 Non-specific normative references

A "non-specific" reference is a reference to a deliverable that will apply to all future revisions and versions of the originally referenced document. Non-specific references require additional procedures to ensure that any revisions made necessary to the ETSI deliverable by virtue of revisions made to the normatively referenced materials are considered by the appropriate Technical Body in charge of the ETSI deliverable.

If a normative reference is non-specific, the Technical Body in charge of the ETSI deliverable should establish a process for gaining access to all future revisions and versions of the normatively referenced material. In addition, the Technical Body should establish a work plan for ensuring that any such new revisions and versions of the normatively referenced material do not require a substantive amendment to the ETSI deliverable referencing that document or, alternatively, for ensuring that any such needed amendments are made and approved appropriately. Any future versions incorporated by reference shall meet with the requirements for public availability and Intellectual Property.

It may, therefore, be appropriate that an ETSI deliverable contain non-specific references, provided that the following requirements can be fulfilled:

- it is accepted that it will be possible to use future versions of the document referred to for the purposes of the referring ETSI deliverable;
- it is granted that the structure of the document referred to will not change for the specific areas which are used by the referring ETSI deliverable (e.g. the referred to document is controlled by the same Technical Body as the referring one).

2.10.1.5 Referring to specific or non-specific references

The following form shall be used consistently throughout the deliverable:

- " ... in accordance with ES 201 001 [n], clause 3, ... ".

2.10.1.6 ETSI Intellectual Property Rights (IPRs) policy for normative references

ETSI promotes a policy that any essential Intellectual Property Rights (IPRs) embodied in normatively referenced documents be available for use in ETSI deliverables on licensing and disclosure terms that do not materially differ from the terms defined in the ETSI IPR Policy. This normative reference policy, however, does not imply any obligation on the Technical Body, ETSI members or Technical Body members to investigate or ensure the availability of any essential normatively referenced IPRs, under any specific licensing and disclosure terms, at the time a normative reference is provided, explicitly or implicitly, within an ETSI deliverable.

2.10.2 Informative references

The "Informative references" clause is numbered 2.2 and lists references to documents that may be useful in implementing an ETSI deliverable or add to the reader's understanding but which are not required for conformance to the ETSI deliverable. Informative references are mentioned in the body of the ETSI deliverable and are indicated by an appropriate wording which **does not** imply normative impact (claim of conformity) of the reference within the document.

EXAMPLE: **"the test method is described in Recommendation ITU-T M.50"**,
Recommendation ITU-T M.50 is an **informative** reference.

Informative references should be publicly available (but no check will be made by the ETSI Secretariat).

- Use the **EX** style, add the letter "i" (for informative) before the number (which shall be in square brackets) and separate this from the title with a tab (you may use sequence fields for automatically numbering references, see clause 6.9.2. (See example).

EXAMPLE:

- [i.1] ETSI TR 102 473: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Use Cases and Services".
- [i.2] ETSI TR 102 469: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Architecture".

Informative references **not mentioned** in the body of the document will be listed in the Bibliography annex, see clause 2.14.

2.10.3 Reference to 3GPP™ deliverables

All deliverables prepared by the 3rd Generation Partnership Project (3GPP™) contain the following notice:

"The present document has been developed within the 3rd Generation Partnership Project (3GPP™) and may be further elaborated for the purposes of 3GPP™. The present document has not been subject to any approval process by the 3GPP™ Organizational Partners and shall not be implemented. This Specification is provided for future development work within 3GPP™ only. The Organizational Partners accept no liability for any use of this Specification. Specifications and reports for implementation of the 3GPP™ system should be obtained via the 3GPP™ Organizational Partners' Publications Offices."

For this reason, all references made to 3GPP™ documents made in draft deliverables will be changed by the ETSI Secretariat to a reference to the equivalent ETSI deliverable.

EXAMPLE: A reference to 3GPP TS 23.040 will be changed to a reference to ETSI TS 123 040.

2.11 Definitions, symbols and abbreviations

"Definitions, symbols and abbreviations" clause shall be numbered 3 and depending on applicability it will consist of 3.1 "Definitions", 3.2 "Symbols" and 3.3 "Abbreviations". They are optional informative elements and shall not contain requirements.

The textblocks to be used can be found in the appropriate skeleton document available from [editHelp!](#) website.

NOTE: Even if no definitions, symbols and abbreviations are present in the deliverable, the presence of this clause is highly recommended to avoid renumbering of clauses in future revisions.

2.11.1 Definitions

The "Definitions" clause gives definitions necessary for the understanding of certain terms used in the ETSI deliverable.

The definitions shall follow the rules hereafter:

- Not take the form of, or contain, a requirement.
 - Be presented in alphabetical order.
 - **The form of a definition should be such that it can replace the term in context.** Any additional information shall be given only in the form of examples or notes. If there are several notes or examples for the same definition, the notes shall be numbered. Otherwise it is not necessary.
- The term shall be in **bold**, and shall start with a lower case letter (unless it is always rendered with a leading capital) followed by a colon, one space, and the definition starting with a lower case letter and no ending full-stop.
 - Use the **Normal** style.

Examples of term's usage, and notes concerning entries, shall be presented as shown below.

EXAMPLE 1:

communal site: location at which there is more than one fixed transmitter

NOTE: There are two types of communal site; one having separate equipment and antennas but housed in a common equipment room, and the other having an engineered system employing common antenna working where the isolation between equipments is determined by the filter system. At all communal sites equipment installed on the site meet the limits as specified in the relevant standards.

EXAMPLE 2:

fast channel: channel with low latency but higher BER in comparison to the slow channel

EXAMPLE: In contrast to the slow channel, the fast channel is not interleaved.

EXAMPLE 3:

requirement: provision that conveys criteria to be fulfilled

2.11.2 Symbols and abbreviations

"Symbols" and "Abbreviations" clauses give a list of the symbols and abbreviations which are used within the ETSI deliverable and are necessary for the understanding of the ETSI deliverable.

The symbols list shall contain in alphabetical order the symbols and their corresponding explanations.

The abbreviations list shall contain in alphabetical order the acronyms and their corresponding full terms.

Do not number the entries in the symbols and/or abbreviations clause.

- Use the **EW** style (**EX** style for the last element in the list).
- Separate the symbol/abbreviation from the full term with a tab.

EXAMPLE:

| | |
|-----|-------------------------------------------|
| dB | decibel |
| DDI | Direct Dialling-In, or direct dialling-in |

2.12 Clauses

From clause 4 the technical content of the deliverable shall be inserted. Each clause shall have a title which shall be placed after its number (except "Intellectual Property Rights (IPR)", "Foreword", "Modal verbs terminology", "Executive summary" and "Introduction" clauses, which are unnumbered), separated by a tab.

A clause can have numbered subdivisions, e.g. 5.1, 5.2, 5.1.1, 5.1.2, etc. This process of subdivisions may be continued as far as the sixth heading level (e.g. 6.5.4.3.2.1).

For numbering issues, see clause 2.12.1.

- Use the **Heading** style appropriate to its level (see clause 6.1, table 8).
- Separate the number of the heading and the text of the heading with a tab.
- Treat clause titles as normal text (i.e. **no additional capitalization**), **but** no full stop.

2.12.1 Numbering issues

The "Intellectual Property Rights (IPRs)", "Foreword", "Modal verbs terminology", "Executive summary" and the "Introduction" clauses shall be unnumbered.

The clauses in each ETSI deliverable shall be numbered with Arabic numerals, beginning with 1 for the "Scope".

Every attempt shall be made to use continuous numbering. However, if continuous numbering cannot be maintained, a new element shall be inserted in existing text using an appropriate alphanumeric designation that does not disturb the existing numbering scheme. This applies to all elements (e.g. clause, annex, figure, table, note, list).

EXAMPLE 1: It is necessary to update an ETSI deliverable. A new clause needs to be inserted between the existing clauses 8 and 9. A new clause 8a shall be inserted in preference to avoid re-numbering the existing clauses.

EXAMPLE 2: A new figure needs to be inserted between existing figures 4 and 5. A new figure 4a shall be inserted to avoid re-numbering of all subsequent figures.

Similarly, an existing element may be deleted and replaced with the term "Void" to minimize disruption to the numbering scheme.

EXAMPLE 3: During the updating of an ETSI deliverable, it is decided that annex C is no longer required. The title of annex C becomes "Void". Later annexes, therefore, remain unchanged.

EXAMPLE 4: It is decided to delete a note 3, so the text of note 3 becomes "Void" and there is no need to re-number note 4.

2.12.1.1 Automatic numbering

Automatic numbering **may be used** in ETSI deliverables.

It is highly recommended to use sequence numbering (see clause 6.9.2) to avoid problems when the deliverable will be converted to PDF format.

The automatic numbering, if used, shall be applied throughout the entire deliverable using the appropriate ETSI styles, otherwise it may corrupt the document.

2.12.2 Paragraph

A paragraph is an unnumbered subdivision of a clause.

"Hanging paragraphs" such as those shown in the following example should be avoided when reference to them is ambiguous.

EXAMPLE 1: In the following example the hanging paragraphs indicated cannot be uniquely identified as being in "clause 5" since strictly speaking the paragraphs in clauses 5.1 and 5.2 are also in clause 5. To avoid this problem it would be necessary either to identify the unnumbered paragraphs as clause "5.1 XXXXXXXXXXXX" and to renumber the existing 5.1 and 5.2 accordingly (as shown), or to move the hanging paragraphs elsewhere.

| Recommended | Not recommended |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 Title 5.1 Title This text can be referred to without any ambiguity. 5.2 Title This text can also be referred to without any ambiguity. 5.3 Title This text can also be referred to without any ambiguity. 6 Test report | 5 Title This text cannot be referred to } in a precise manner as clause 5 } hanging paragraphs also has subdivisions } 5.1 XXXXXXXXXXXX This text can be referred to without any ambiguity. 5.2 XXXXXXXXXXXX This text can also be referred to without any ambiguity. 6 Test report |

EXAMPLE 2: In the following example an acceptable hanging paragraph is shown.

| Acceptable |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 Title The following clauses define aaa, bbb and ccc (see note). 5.1 aaa This text about "aaa" can be referred to without any ambiguity. 5.2 bbb This text about "bbb" can be referred to without any ambiguity. 6 Test report NOTE: There is no need for reference to this text. |

2.13 Annexes

Each annex shall:

- start on a new page;
- be designated by a heading comprising the word "Annex" followed by a capital letter designating its serial order, beginning with "A", e.g. "Annex A" (see also clause 2.12.1);
- have its heading followed by the indication "(normative):" or "(informative):", and by the title on the next line.

EXAMPLE 1: Annex A (normative):
Title of annex A

EXAMPLE 2: Annex A (informative):
Title of annex A

Exceptions to this rule are for the deliverable types EG, TR and SR which are entirely informative. Thus the addition of "(normative):" or "(informative):" after the annex identifier is superfluous and shall not be provided, see example 3.

EXAMPLE 3: Annex A:
Title of annex A

Numbers given to the clauses, tables, figures and mathematical formulae of an annex shall be preceded by the letter designating that annex followed by a full-stop (e.g. figure B.1, table C.4). The numbering shall start afresh with each annex. A single annex shall be designated "Annex A".

Clauses in annex A shall be designated "A.1", "A.2", "A.3", etc. (see also clause 2.12.1).

- Use the **Heading 8** style for the annex heading (except for EGs, TRs and SRs use the **Heading 9** style). Insert a line break ("shift" + ↵ "enter") between the colon and the title.
- For all annex clause headings use the appropriate Heading styles, starting from **Heading 1**, e.g. for clause A.1 use **Heading 1**, for clause A.1.1 use **Heading 2**. (See clause 6.1, table 8).

For annexes in endorsement of documents from other standards organizations, see clause 9.

For annexes in Harmonized Standards see clause 8.5.

2.13.1 Normative annexes

For reasons of convenience it may be decided to place some part of the normative text in an annex.

Normative annexes contain provisions to which it is necessary to conform in order to be able to claim compliance with the ETSI deliverable. Their presence is optional and their status (except for EGs, TRs and SRs, see note in clause 2.13) shall be indicated in the heading of the annex.

2.13.2 Informative annexes

For reasons of convenience it may be decided to place some part of the informative text in an annex.

Informative annexes give additional information intended to assist the understanding or use of the ETSI deliverable and shall not contain provisions to which it is necessary to conform in order to be able to claim compliance with the ETSI deliverable. Their presence is optional and their status (except for EGs, TRs and SRs, see note in clause 2.13) shall be indicated in the heading of the annex.

The following annexes are optional and if present, will be displayed in the following order before the history box (see clause 2.16):

- Bibliography (see clause 2.14);
- Change history/Change request (history) (see clause 2.15).

NOTE: Each of these elements shall start on a new page.

2.14 Bibliography

The "Bibliography" shall start on a new page and be the last annex of an ETSI deliverable or the last but one if followed by the "Change history/Change request history" annex, if any. The "Bibliography" annex is an optional informative element and shall not contain requirements.

The Bibliography identifies additional reading material not mentioned within the document. Those publications might or might not be publicly available (no check is made by the ETSI Secretariat).

The Bibliography shall include:

- list of standards, books, articles, or other sources on a particular subject which are not referenced in the document.

The Bibliography shall not include:

- normative references mentioned in the deliverable (such references shall be listed in clause 2.1 "Normative references");
- informative references mentioned in the deliverable (such references shall be listed in clause 2.2 "Informative references").

- Use **Heading 8** style for the "Bibliography" annex (except for EGs, TRs and SRs use the **Heading 9** style), see clause 2.13 for examples.
- For the listed material use the **Normal** style or bulleted lists (e.g. **B1+**), do not use numbered references.

EXAMPLE 1:

ITU-T Recommendation X.200: "Title".

Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity ("the R&TTE Directive").

EXAMPLE 2:

- <Primary responsibility>. <Title>. <Edition>. <Year>, <Issue designation>, <Page location>. (e.g. WEAVER, William. "Command performances". December 1985, vol. 42, n° 12, p. 126-133).
- ISO/IEC 17875: "Title".

2.15 Change history/Change request (history)

The "Change history/Change request (history)" shall start on a new page and be the last annex before the "History" clause. It is an optional, informative element and shall not contain requirements.

The "Change history/Change request (history)", if present, describes the list of changes implemented in a new version of the deliverable. It shall be presented as a table.

Example of change history table can be found in the appropriate skeleton document available from [editHelp!](#) website.

2.16 History

The "History" clause shall start on a new page and be the final unnumbered clause of an ETSI deliverable. It is a required informative element and shall not contain requirements.

The "History" identifies the major milestones in the life of an ETSI deliverable through the means of a table. The history box shall be provided by the ETSI Secretariat.

If it is desired to keep a detailed record of the document history (other than the major milestones) it is recommended that this is done by inserting a "Change history/Change request" annex, see clause 2.15.

- Use **Heading 1** style for the title.

Example of history table can be found in the appropriate skeleton document available from [editHelp!](#) website.

3 Requirements and test methods

3.1 Requirements

This element is optional. If present, it shall contain:

- a) all characteristics relevant to the aspect(s) of the product(s), process(es) or service(s) covered by the ETSI deliverable, either explicitly or by reference;
- b) the required limiting values of quantifiable characteristics.

A clear distinction shall be made between requirements, statements and recommendations (see also clause 3.2).

Contractual requirements concerning claims, guarantees, covering of expenses, etc. shall not be included.

ETSI deliverables listing characteristics for which suppliers are required to state values that are not specified by the ETSI deliverable itself shall specify how such values are to be measured and stated.

For endorsement of documents from other standards organizations, see clause 9.

3.2 Verbal forms for the expression of provisions

An ETSI deliverable does not in itself impose any obligation upon anyone to follow it. However, such an obligation may be imposed, for example, by legislation or by a contract. In order to be able to claim compliance with an ETSI deliverable, the user needs to be able to identify the requirements that are obligatory. The user also needs to be able to distinguish these requirements from other provisions where there is a certain freedom of choice.

Clear rules for the use of verbal forms (including modal auxiliaries) are therefore essential. In the first column of tables 2 to 5 the verbal form that shall be used to express each kind of provision is given. The equivalent expressions given in the second column shall be used only in exceptional cases when the form given in the first column cannot be used for linguistic reasons.

NOTE: Only singular forms are shown.

The verbal forms shown in table 2 shall be used to indicate requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted (see also clause 2.6).

Table 2: Requirement

| Verbal form | Equivalent expressions for use in exceptional cases (see note) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| shall | is to is required to it is required that has to only ... is permitted it is necessary |
| shall not | is not allowed [permitted] [acceptable] [permissible] is required to be not is required that ... be not is not to be |
| <ul style="list-style-type: none">Do not use "must", except when used in direct citation.Do not use "may not" or "has not" instead of "shall not" to express a prohibition. To express a direct instruction, for example referring to steps to be taken in a test method, use the imperative mode in English (e.g. "switch on the recorder"). | |
| NOTE: "exceptional cases" means where the ETSI Drafting Rules, if applied, would change the meaning of the sentence or make it difficult to understand. | |

The verbal forms shown in table 3 shall be used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

Table 3: Recommendation

| Verbal form | Equivalent expressions for use in exceptional cases (see note) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| should | it is recommended that ought to |
| should not | it is not recommended that ought not to |
| NOTE: "exceptional cases" means where the ETSI Drafting Rules, if applied, would change the meaning of the sentence or make it difficult to understand. | |

The verbal forms shown in table 4 are used to indicate a course of action permissible within the limits of the ETSI deliverable.

Table 4: Permission

| Verbal form | Equivalent expressions for use in exceptional cases (see note) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| may | is permitted is allowed is permissible |
| need not | it is not required that no ... is required |
| <ul style="list-style-type: none"> Do not use "possible" or "impossible" in this context. Do not use "can" instead of "may" in this context. <p>"May" signifies permission expressed by the standard, whereas "can" refers to the ability of a user of the standard or to a possibility open to him.</p> <p>NOTE: "exceptional cases" means where the ETSI Drafting Rules, if applied, would change the meaning of the sentence or make it difficult to understand.</p> | |

The verbal forms shown in table 5 are used for statements of possibility and capability, whether material, physical or causal.

Table 5: Possibility and capability

| Verbal form | Equivalent expressions for use in exceptional cases (see note) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| can | be able to there is a possibility of it is possible to |
| cannot | be unable to there is no possibility of it is not possible to |
| <ul style="list-style-type: none"> Do not use "may" instead of "can" in this context. <p>"Can" refers to the ability of a user of the standard or to a possibility open to him, whereas "may" signifies permission expressed by the standard</p> <p>NOTE: "exceptional cases" means where the ETSI Drafting Rules, if applied, would change the meaning of the sentence or make it difficult to understand.</p> | |

The verbal forms shown in table 6 shall be used to indicate behaviour of equipment or sub-systems outside the scope of the deliverable in which they appear. For example, in a deliverable specifying the requirements of terminal equipment, these forms shall be used to describe the expected behaviour of the network or network simulator to which the terminal is connected.

Table 6: Inevitability

| Verbal form | Equivalent expressions |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| will | - |
| will not | - |
| <ul style="list-style-type: none"> Distinguish from "shall"/"shall not". Use to express behaviour of equipment or systems <i>outside</i> the scope of the deliverable being drafted, where description of such behaviour is essential to the correct understanding of the requirements pertaining to equipment <i>within</i> the scope of the current deliverable. | |

EXAMPLE: Extract from deliverable specifying behaviour of terminal equipment: "... On expiry of timer T3, the terminal shall send a TIMEOUT message to the network and start timer T4. The network will respond with a TIMEOUT-ACKNOWLEDGE message. On receipt of a TIMEOUT-ACKNOWLEDGE message, the terminal shall stop timer T4 ..."; thus is distinguished the strong future ("the terminal shall") used for requirements and the normal future ("the network will") used to indicate expected events.

The verbal forms shown in table 7 shall be used to indicate statements of fact.

Table 7: Fact

| Verbal form | Equivalent expressions |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| is | Any verb in the indicative mood, present tense. |
| is not | |
| <ul style="list-style-type: none">Distinguish from "shall"/"shall not". Do not use present indicative of verbs for expressing requirements. | |

For further details refer to the "Use of English guide" available from [editHelp!](#) website.

3.3 Test methods

This optional element gives all the instructions concerning the procedure for determining the values of characteristics, or for checking conformity to stated requirements, and for ensuring the reproducibility of the results. If appropriate, tests shall be identified to indicate whether they are type tests, routine tests, sampling tests and so on.

Instructions relating to test methods may be subdivided in the following order (where appropriate):

- a) principle;
- b) apparatus;
- c) preparation and preservation of test samples and test pieces;
- d) procedure;
- e) test report.

Test methods may be presented as separate clauses, or be incorporated in requirements, or be presented as annexes (see clause 2.13) or as separate parts (see clause 1.8.2). A test method shall be prepared as a separate ETSI deliverable if it is likely to be referred to in a number of other ETSI deliverables.

The need for specification of test methods shall be evaluated on a case by case basis, in accordance with TCR-TR 006.

A test specification enables verification that products designed to a standard conform to its requirements. When writing a TS, ES or EN, you should consider the need for an accompanying test specification.

Every requirement of an ETSI deliverable specifying a product (equipment, system or service) needs to be testable, and such requirements need to be clearly distinguishable from statements of fact or of supposition.

EXAMPLE: Comparing the two sentences below:

"On receiving a START CALL message, the terminal shall respond by sending an ACKNOWLEDGE message within a delay of t_1 ."

"On receiving a START CALL primitive, the layer 3 protocol of the terminal shall move to state CALL ACTIVATED and shall start timer t_2 ."

It is clear that conformance to the first requirement can be verified by external stimulus and observation, whereas the second puts demands on a conceptual model which cannot be explicitly tested. Whilst requirements of the latter sort are useful - even essential - for describing operational details, the essential behavioural characteristics (normative provisions) are given by requirements of the type of the former, and only these are verifiable.

4 Trade names

Proprietary trade names (e.g. trade marks) for a particular good or service should as far as possible be avoided, even if they are in common use. Instead a correct designation or description of a product should be given.

If, in exceptional circumstances, trade names cannot be avoided, their nature shall be indicated, e.g. by the symbols ® or ™ for a registered trade mark (see example 1).

EXAMPLE 1: Instead of "Teflon®", write "polytetrafluoroethylene (PTFE)".

If it is known that only one product is currently available that is suitable for the successful application of the standard, the trade name of the product may be given in the text of the standard but shall be associated with a note as shown in example 2.

EXAMPLE 2:

NOTE 1: "... [trade name of product] ... is the trade name of a product supplied by ... [supplier] This information is given for the convenience of users of the present document and does not constitute an endorsement by ETSI of the product named. Equivalent products may be used if they can be shown to lead to the same results."

If it is considered to be essential to give an example (or examples) of commercially available products suitable for successful application of the standard because the product characteristics are difficult to describe in detail, trade names may be given in a note as shown in example 3.

EXAMPLE 3:

NOTE 2: "... [trade name(s) of product(s)] ... is (are) an example(s) of a suitable product(s) available commercially. This information is given for the convenience of users of the present document and does not constitute an endorsement by ETSI of this (these) product(s)."

5 Elements of an ETSI deliverable

5.1 Figures

5.1.1 Usage

Figures should be used wherever appropriate to present information in an easily comprehensible form. Each figure shall be referred to explicitly within the text and, therefore, be numbered.

5.1.2 Format

Figures shall be prepared in accordance to clauses 7.5.2 and/or 7.1.

- Use **FL** style on the paragraph which contains the figure itself.
- Maximum width for figures is 17 cm and maximum height is 22 cm.

NOTE: For an easy application of the ETSI styles download "the ETSI styles toolbar" from [editHelp!](#) website.

5.1.3 Numbering

Figures may be numbered sequentially throughout the document without regard to the clause numbering, e.g. first figure is figure 1 and the twentieth figure (in, say clause 7) is figure 20.

Figures may also be numbered taking account of clause numbering.

EXAMPLE 1: First figure in clause 5 is figure 5.1, second figure in clause 5.1.1 is figure 5.2, third figure in clause 5.2.3 is figure 5.3.

EXAMPLE 2: First figure in clause 7 is figure 7.1, fifth figure in clause 7 is figure 7.5.

EXAMPLE 3: First figure in clause 7.3.2 is figure 7.3.2.1, fifth figure in clause 7.3.2 is figure 7.3.2.5.

One level of subdivision only is permitted (e.g. figure 1 may be subdivided as 1 a), 1 b), 1 c), etc.). See also clause 2.12.1. For the numbering of figures in annexes, see clause 2.13.

- Should you wish to number figures automatically, "Sequence numbering and bookmarking" (see clause 6.9.2) is highly recommended.

5.1.4 Layout of title

The figure title shall be below the figure. An explicit figure title is optional. See the following examples:

EXAMPLE 1:

Figure 1: Details of apparatus

EXAMPLE 2:

Figure 1

- Use **TF** style.
- If applicable, the figure number is followed by a colon, a space and the figure title.

5.1.5 Notes to figures

Notes to figures shall be treated independently from notes integrated in the text (see clause 5.5.1) and for this reason may contain requirements. They shall be located above the title of the relevant figure. A single note in a figure shall be preceded by "NOTE:". When several notes occur in the same figure, they shall be designated "NOTE 1:", "NOTE 2:", "NOTE 3:", etc. (see also clause 2.12.1). A separate numbering sequence shall be used for each figure.

- **Write notes to a figure using the word processor** rather than embedding them in the figure itself.
- Use **NF** style.
- Separate "NOTE:" from the text of the note with a tab.

5.1.6 References to figures

Every figure included in the ETSI deliverable shall be referred to in the text, for example using the following forms:

- "given in figure 2";
- "(see figure B.2)";
- "shown in figure A.6".

Lower case letters are recommended (e.g. figure 2), however capital letters are also acceptable (e.g. Figure 2). Usage should be consistent throughout the document.

5.2 Tables

5.2.1 Usage

Tables should be used wherever appropriate to present information in an easily comprehensible form. Each table shall be referred to explicitly within the text and therefore be numbered.

- Centre tables horizontally.
- The "space between columns" is 0,1 pt or 0,05 cm (default cell margins Left 0,05 pt & Right 0,19 pt).
- Maximum width for tables in portrait orientation: 17 cm and for landscape orientation: 22 cm.
- Set table columns widths in centimetres (not inches).
- Use borders to separate the rows and columns of tables, as appropriate; the precise format will depend on the structure of each table, but be consistent throughout a deliverable (or series of related deliverables). Borders should be ¾ pt single line.
- Each table shall be followed by an empty "Normal" style paragraph (↵ "Enter" key).

5.2.2 Format

The following styles should be used in table cells.

- | | |
|--------------------------|------------|
| • Table Headings | TAH |
| • Text Left aligned | TAL |
| • Text Centred | TAC |
| • Text Right aligned | TAR |
| • Table Note | TAN |
| • List in tables Level 1 | TB1 |
| • List in tables Level 2 | TB2 |

NOTE: For an easy application of the ETSI styles download "the ETSI styles toolbar" from [editHelp!](#) website.

5.2.3 Continuation of tables

The column headings shall be repeated on all pages after the first.

- Use the table headings tool (**Table, Heading Rows Repeat**)

5.2.4 Numbering

Tables may be numbered sequentially throughout the document without regard to the clause numbering, e.g. the first table is table 1 and the twentieth table (in, say clause 7) is table 20.

Tables may also be numbered taking account of clause numbering.

EXAMPLE 1: First table in clause 5 is table 5.1, second table in clause 5.1.1 is table 5.2, third table in clause 5.2.3 is table 5.3.

EXAMPLE 2: First table in clause 7 is table 7.1, fifth table in clause 7 is table 7.5.

EXAMPLE 3: First table in clause 7.3.2 is table 7.3.2.1, fifth table in clause 7.3.2 is table 7.3.2.5.

One level of subdivision only is permitted (e.g. table 1 may be subdivided as 1 a), 1 b), 1 c), etc.). See also clause 2.12.1. For the numbering of tables in annexes, see clause 2.13.

- Should you wish to number tables automatically, "Sequence numbering" (see clause 6.9.2) is highly recommended.

5.2.5 Layout of title

The title shall be above the table. An explicit table title is optional. See the following examples:

EXAMPLE 1:

Table 1: Electrical properties

EXAMPLE 2:

Table 1

- Use **TH** style.
- If applicable, the table number is followed by a colon, a space and the table title.

5.2.6 Headings

The first word in the heading of each column shall begin with a capital letter. The units used in a given column shall generally be indicated within the column heading.

EXAMPLE:

| Type | Linear density (kg/m) | Inside diameter (mm) | Outside diameter (mm) |
|------|-----------------------|----------------------|-----------------------|
| | | | |

5.2.7 Notes to tables

Notes to tables shall be treated independently from notes integrated in the text (see clause 5.5.1) and for this reason may contain requirements. They shall be located within the frame of the relevant table. A single note in a table shall be preceded by "NOTE:". When several notes occur in the same table, they shall be designated "NOTE 1:", "NOTE 2:", "NOTE 3:", etc. (see also clause 2.12.1). A separate numbering sequence shall be used for each table.

- Use **TAN** style.
- Separate NOTE: from the text of the note with a "Ctrl" + "→" (tab).
- Include notes to a table within its borders in one cell, at the bottom.
- Merge all cells to one, as in the following example:

EXAMPLE:

| | | | |
|------------------------------------------|----------------------------|---------------|----------------------------|
| Column 1 cell | Column 2 cell (see note 2) | Column 3 cell | Column 4 cell (see note 1) |
| NOTE 1: This cell is a merged cell. | | | |
| NOTE 2: This cell is also a merged cell. | | | |

5.2.8 References to tables

Every table included in the ETSI deliverable shall be referred to in the text, for example using the following forms:

- "given in table 2";
- "(see table B.2)";
- "shown in table A.6".

Lower case letters are recommended (e.g. table 1), however capital letters are also acceptable (e.g. Table 1). Usage should be consistent throughout the document.

5.3 Mathematical formulae

5.3.1 Types of equations

Equations between quantities are preferred to equations between numerical values. Equations shall be expressed in mathematically correct form, the variables being represented by letter symbols the meanings of which are explained in connection with the equations, unless they appear in a "Symbols and abbreviations" clause (see clause 2.11.2). Descriptive terms, acronyms or names of quantities shall not be arranged in the form of an equation.

EXAMPLE:

$$\tau = \sqrt{\frac{1}{(6n^2(N-3n+1))} \sum_{j=1}^{N-3n+1} \left(\sum_{i=j}^{n+j-1} (x_{i+2n} - 2x_{i+n} + x_i) \right)^2}$$

where:

- x_j are samples of time errors data;
- N is the total number of samples;
- τ is the time error sampling interval;
- n is the number of sampling intervals, with $n = 1, 2, \dots$, integer part ($N/3$).

5.3.2 Presentation

It is recommended to use Microsoft® Equation Editor.

- Use **EQ** style.
- Insert one tab before the equation to centre it.

The equation editor sizes and styles should be respected as shown in the following examples.

In order to apply the following required settings, please download the equation editor registry file (available from [editHelp!](#) website).

| Styles | | | |
|-------------------------|-----------------|-------------------------------------|-------------------------------------|
| Style | Font | Character Format | |
| | | Bold | Italic |
| Text | Times New Roman | <input type="checkbox"/> | <input type="checkbox"/> |
| Function | Times New Roman | <input type="checkbox"/> | <input type="checkbox"/> |
| Variable | Times New Roman | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| L.C. Greek | Symbol | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| U.C. Greek | Symbol | <input type="checkbox"/> | <input type="checkbox"/> |
| Symbol | Symbol | <input type="checkbox"/> | <input type="checkbox"/> |
| Matrix-Vector | Times New Roman | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Number | Times New Roman | <input type="checkbox"/> | <input type="checkbox"/> |

| Sizes | |
|---------------------------|------|
| Full | 10pt |
| Subscript/Superscript | 8pt |
| Sub-Subscript/Superscript | 6pt |
| Symbol | 20pt |
| Sub-symbol | 12pt |
| | |

$$(1+B)^2 \sum_{p=1}^{\infty} X_{n_k}^{kp}$$

5.3.3 Numbering

If it is necessary to number some or all of the formulae in an ETSI deliverable in order to facilitate cross-reference, Arabic numbers in parentheses shall be used, beginning with 1:

EXAMPLE 1:

$$x^2 + y^2 < z^2 \quad (1)$$

Equations may be numbered sequentially throughout the document without regard to the clause numbering, e.g. first equation is equation 1 and the twentieth equation (in, say clause 7) is equation 20.

Equations may also be numbered taking account of clause numbering.

EXAMPLE 2: First equation in clause 5 is equation 5.1, second equation in clause 5.1.1 is equation 5.2, third equation in clause 5.2.3 is equation 5.3.

EXAMPLE 3: First equation in clause 7 is equation 7.1, fifth equation in clause 7 is equation 7.5.

EXAMPLE 4: First equation in clause 7.3.2 is equation 7.3.2.1, fifth equation in clause 7.3.2 is equation 7.3.2.5.

See also clause 2.12.1. For the numbering of equations in annexes see clause 2.13.

- Should you wish to number equations automatically, the sequence numbering is highly recommended, (see clause 6.9.2).
- Insert a tab between the equation and the number to right-align the number.

5.4 Lists

Lists may be introduced by a sentence, a complete grammatical proposition or by the first part of a proposition, completed by the items in the list.

Each item in a list shall be preceded by a bullet, a dash, an Arabic numeral followed by a parenthesis, or a lower case letter followed by a parenthesis.

EXAMPLE 1:

- list item 1
- list item 2
- list item 3

EXAMPLE 2:

- list item 1;
- list item 2;
- list item 3.

EXAMPLE 3:

- list item 1,
- list item 2,
- list item 3.

EXAMPLE 4:

- 1) List item 1
- 2) List item 2
- 3) List item 3

EXAMPLE 5:

- a) List item a.
- b) List item b.
- c) List item c.

EXAMPLE 6:

- list item 1
- list item 2
- list item 3

"And" or "or" shall be used at the end of the penultimate element of a list to indicate unambiguously whether all the elements apply ("and") or whether they are mutually exclusive ("or").

- Use the appropriate bullet styles, i.e. styles **B1** to **B5** or **B1+** to **B3+**, **BN**, **BL** (see table 8).
- Separate the list item identifier (e.g. bullet) and the text with a tab (if using styles **B1** to **B5**, the others are automatic bullet styles containing the space).
- Ensure that the formatting of the lists is consistent throughout the deliverable.

5.5 Notes and examples

5.5.1 Notes and examples integrated in the text

Notes and examples should preferably be placed at the end of the clause, or after the paragraph, to which they refer.

Notes and examples integrated in the text shall only be used for giving additional information intended to assist the understanding or use of the ETSI deliverable. They shall not contain any information considered indispensable for the use of the deliverable.

A single note in a clause shall be preceded by "NOTE:", placed at the beginning of the first line of the text of the note. When several notes occur within the same element (e.g. clause), they shall be designated "NOTE 1:", "NOTE 2:", "NOTE 3:", etc. (see also clause 2.12.1).

The word NOTE shall appear in upper case.

- Use the **NO** style.
- Separate NOTE: from the text of the note with a tab.

EXAMPLE 1:

NOTE: Text formatted with the **NO** style will be formatted **with** a space after the paragraph.

END of EXAMPLE 1

A single example in a clause shall be preceded by "EXAMPLE:", placed at the beginning of the first line of the text of the example. When several examples occur within the same element (e.g. clause), they shall be designated "EXAMPLE 1:", "EXAMPLE 2:", "EXAMPLE 3:", etc. (see also clause 2.12.1).

When there is a danger that it may not be clear where the example ends and the normal text continues, then the end of the example may be designated by "END of EXAMPLE".

The word EXAMPLE shall appear in upper case.

- Use **EX** style.
- Separate EXAMPLE: from the text of the example with a tab.

EXAMPLE 2:

EXAMPLE: Example text.

END of EXAMPLE 2

5.5.2 Footnotes to the text

Footnotes **shall not** be used in ETSI deliverables. If necessary notes integrated in the text shall be used.

5.6 Photographs

Photographs shall be used only in accordance with the relevant provisions of the ETSI IPR Policy and the ETSI Guide on IPRs.

If the photograph shows a person and if there are doubts about the respect of the rights of personality of that person, a written confirmation that those rights have not been invaded and have been fully respected shall also be obtained from the author of the photograph. If the authorization cannot be obtained the face of this person shall be blurred.

5.7 Computer language and other code

Computer code (e.g. ASN.1, GDMO, C, C++, etc.) may be included in an ETSI deliverable but should be clearly marked as such.

- Use **PL** style.

Large volumes of program code, source code or formal description language shall be placed in an electronic attachment accompanying the ETSI deliverable. See clause 7.2 for further details.

5.8 Safety statements

ETSI Technical Committee (TC) Safety is responsible for statements to be included in any ETSI deliverables regarding the protection of the health and the safety of the user and any other person.

There are several product safety standards already available from CENELEC that have been cited in the Official Journal of the European Union (OJEU) in connection with the Low Voltage Directive (LVD) 2006/95/EC. Such Harmonized Standards can be used to demonstrate compliance with some or all of the essential requirements of article 3.1(a) of the Radio equipment & Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC (see article 18).

If it is desired to give the user of the deliverable some guidance on safety matters, the following text may be used in all ETSI deliverables (either as a separate clause or as the final element of the Scope):

"Requirements for safety are outside the scope of the present document. Safety standards are published by CENELEC. A list of relevant standards can be found at <http://ec.europa.eu/enterprise/newapproach/standardization/harmstds/reflist/lvd.html>."

NOTE 1: An example of such a CENELEC product safety standard is EN 60950-1.

NOTE 2: For safety categories of interfaces, see CENELEC TR 62102.

If this is done then the following shall be added to the Bibliography of the ETSI deliverable:

- CENELEC EN 60950-1: "Safety of information technology equipment".
- CENELEC TR 62102: "Electrical safety; Classification of interfaces for equipment to be connected to information and communications technology networks".

6 Editorial layout and formatting

6.1 ETSI styles

Use table 8 when determining which style to use for various elements of the deliverable. Do not alter existing styles or formats pre-set in the ETSI styles, do not add new styles to the ETSI template and do not delete ETSI styles (see style FP in table 8).

NOTE: For an easy application of the ETSI styles download "the ETSI styles toolbar" from [editHelp!](#) website.

Table 8

| Use this style | For this type of element |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Heading styles | For different headings |
| Heading 1 | Clause |
| Heading 2 to 5 | Subdivision level 2 to 5 |
| H6 | Subdivision level 6 (not reflected in the table of contents) |
| Heading 8 | Annex title |
| Heading 9 | Annex title for TRs and SRs only |
| Example styles | For examples and abbreviations/symbols lists |
| EX | Reference, Example → |
| EW | Symbol, Abbreviation, Example continuation in text → |
| Note style | |
| NO | Note integrated in the text → |
| Figure styles | For formatting figures |
| TF | Figure title |
| FL | Figure layout |
| NF | Note in figure → |
| Table styles | For formatting tables |
| TH | Table title |
| TAH | Heading within table or column heading |
| TAC | Centred texts |
| TAL | Left aligned text |
| TAR | Right aligned text |
| TB1 | List in tables Level 1 |
| TB2 | List in tables Level 2 |
| TAN | Note in table → |
| List styles (indents) | |
| B1 to B5 | Indent 1 to 5 |
| B1+ | Bulleted indent 1 (round bullets) |
| B2+ | Bulleted indent 2 (dashes) |
| B3+ | Bulleted indent 3 (square bullets) |
| BN | Bulleted (numbers) indent 1 |
| BL | Bulleted (letters) indent 1 |
| General styles | For different items |
| Normal | Standard paragraph, Definition |
| TT | Contents list title |
| PL | Programming language |
| EQ | Equation |
| Header | Header (portrait and landscape pages) |
| Style which can be user-defined | For formatting defined by the user that will not be altered by the ETSI processing macros |
| FP | Free Paragraph |
| → use "tab" between "item/number" and "text". EXAMPLE: The "tab" is preceding this example text. | |

6.2 Capital letters

Unnecessary use of capital letters should be avoided.

EXAMPLE: "user" is preferred to "User".

6.3 Different items concerning text

| | |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bold text | Use bold to emphasize text (the underline attribute causes confusion with weblinks and revision marks). |
| Italic text | Use <i>italic</i> for citations, linguistic expressions or when a word/text/expression is extracted from a specific context. |
| Non-breaking spaces | Use non-breaking spaces (°) or non-breaking hyphens (-) in order to avoid unexpected wrap around between two words and/or numbers (e.g. 50°cm, 1°000, clause°6, etc.). These characters appear as normal spaces () or hyphens (-) when printed out. |
| Quotation marks | Use "straight" quotation marks ("...") not "curly" or "smart quotes". |
| Underlined text | It is not recommended to use underlined text (to avoid confusion with weblinks and revision marks). |
| Spaces after punctuation | Do not put more than one space after a full stop. Do not precede comma (,), semicolon (;), colon (:), full stop (.), question mark (?) or exclamation mark (!) by spaces. |
| Tabulation | Do not use spaces in place of tabs when indentation/alignment is required; this can cause text to be misaligned. |

6.4 Dimensions and tolerances

Dimensions and tolerances shall be indicated in an unambiguous manner.

NOTE 1: In the text below, ° represents the non-breaking space character.

EXAMPLE 1: 80 mm°×°25 mm°×°50 mm (not 80 × 25 × 50 mm).

EXAMPLE 2: 80 µF°±2 µF or (80 ± 2) µF.

EXAMPLE 3: 16 kbit/s to 64 kbit/s (not 16 to 64 kbit/s).

EXAMPLE 4: 0 °C to 10 °C (not 0 to 10 °C).

EXAMPLE 4a: X = [1..8].

In order to avoid misunderstanding, tolerances on percentages shall be expressed in a mathematically correct form.

EXAMPLE 5: Write "from 63°% to 67°%" to express a range.

EXAMPLE 6: Write "(65°±2)°%" to express a centre value with tolerance.
The form "65°±2°%" shall not be used.

NOTE 2: For "scientific units" (e.g. "s" for second(s)), please refer to the "Use of English guide" available from [editHelp!](#) website.

6.5 Quantities, units, symbols and signs

The units in which any values are expressed shall be indicated.

6.6 Representation of numbers and numerical values

The decimal sign shall be a comma. The thousand separator shall be a space.

NOTE 1: In the text below, ° represents the non-breaking space character.

If a value less than 1 is written in decimal form, the decimal sign shall be preceded by a zero.

EXAMPLE 1: 0,001.

Each group of three digits reading to the left of a decimal sign shall be separated by a space from preceding digits or following digits respectively, except for four-digit numbers designating years.

EXAMPLE 2: 23°456 2°345 2,345 2,345 6 2,345 67 but the year 1997.

For clarity, the symbol \times or a lower case x (rather than a point or any other symbol) shall be used to indicate multiplication of numbers and numerical values.

EXAMPLE 3: Write $1,8 \times 10^{-3}$ (not $1,8 * 10^{-3}$ or $1,8 \bullet 10^{-3}$ or $1,8 . 10^{-3}$).

NOTE 2: The exception are vector values because it makes a difference whether multiplying with a "•" (scalar value) or with a "×" (vector value).

To express numbers of items (as opposed to numerical values of physical quantities), the numerals one to nine shall be spelt out in full.

EXAMPLE 4: "Carry out the test on five tubes, each 5 m long."

EXAMPLE 5: "Select a further 15 tubes for the pressure test."

Preserve document identities as in the original titles.

EXAMPLE 6: ISO/IEC°10531-1 (not ISO/IEC 10°531-1).

EXAMPLE 7: ES°201°150.

Put a non-breaking space between a number and its unit - including the percent sign (%) - even if the unit is not abbreviated:

EXAMPLE 8: 2°pages 4°seconds 15°%.

Write a number preceded by a unary operator (sign) without an intervening space, except for \leq , \geq , $>$, $<$:

EXAMPLE 9: a level of -3°dB ...

EXAMPLE 9a: > 3 dB

Put a non-breaking space both before and after binary operators (+, -, \times , etc.):

EXAMPLE 10: $a^\circ +^\circ b^\circ =^\circ c$.

- Use non-breaking spaces ("Ctrl" + "Shift" + space) for the thousand separator, before and after binary operators and preceding units.
- Use a non-breaking hyphen for the minus sign:
 - For AZERTY keyboard ("Ctrl" + 8)
 - For QUERTY keyboard "Ctrl" + "Shift" + "hyphen (_)

6.7 Referencing the ETSI deliverable as a whole in its own text

6.7.1 Referencing the single deliverable

The form "the present document ..." shall be used.

6.7.2 Referencing a multi-part deliverable

The following formulation shall be used:

For a specific part:

- "EN 300 256-2 is ...".

For various specific parts:

- "EN 300 256-7 to EN 300 256-9 are....".
- "EN 300 256-5 and EN 300 256-8 are ...".

For all parts:

- "All parts of EN 300 256 ..."

6.7.3 Referencing elements of text

Use, for example, the following forms:

- "in accordance with clause 3";
- "according to clause 3.1";
- "as specified in clause 3.1 b)";
- "details as given in clause 3.1.1";
- "see annex B";
- "the requirements given in clause B.2";
- "see the note in table 2";
- "see example 2 in clause 6.6.3";
- "see note 3 in clause 6.6.1".

If there is a need to refer to an unnumbered list item, the following formulation shall be used:

- "as specified in clause 3.1, second list item".

Lower case letters are recommended (e.g. clause 1, annex A), however capital letters are also acceptable (e.g. Clause 1, Annex A). Usage shall be **consistent** throughout the document.

References shall be made in the forms indicated in clauses 6.7, 5.1.6 and 5.2.8 and shall not be made to page numbers.

The terms that shall be used to designate the divisions and subdivisions that an ETSI deliverable may have are shown in table 9.

Table 9: Names of divisions and subdivisions

| Term | Example of numbering |
|-----------|----------------------|
| part | ES 201 111-1 |
| sub-part | ES 201 111-1-2 |
| clause | 1 |
| clause | 1.1 |
| clause | 1.1.1 |
| annex | A |
| clause | A.1 |
| clause | A.1.1 |
| paragraph | |
| subclause | |

NOTE: The use of terms " paragraph" and "subclause" is authorized in "exceptional cases" (e.g where the ETSI Drafting Rules, if applied, would change the meaning of the sentence or make it difficult to understand).

EXAMPLE: "... is described in the remaining subclauses of this clause".

6.8 Pagination

Unnecessary forced pagination, (i.e. use of hard page breaks) should be avoided.

- Use Format | Paragraph | Text Flow | Keep Lines Together and Keep with Next attributes instead of "hard" page breaks.

6.9 Numbering

6.9.1 Page numbering, page headers and footers

The skeleton document supplies fields for automatic page numbering and the identification of the deliverable in the page header. Do not add anything to or delete anything from the headers and footers.

- Use the **HEADER** style on all page headers (sections) except for the title page (section).

6.9.2 Sequence numbering and bookmarking

Sequence numbering is highly recommended to automatically number sets of items within a deliverable, especially if the document is long and/or contains numerous references, tables, figures, equations, etc. It avoids renumbering the whole sets when inserting new items.

Sequence numbers may also be bookmarked, in order to facilitate cross-referencing throughout the text: it avoids renumbering cross-references and guarantees their accuracy.

Do not use cross-referencing option, since it implies the use of automatic heading or caption numbering (see clause 2.12.1.1).

Use the following sequence identifiers (**Insert/Field/Numbering Seq** and type in the relevant sequence identifier):

Table 10: Sequence numberings

| Sequence | Bookmark name | Description |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|
| seq equ | equ_xx | for equations (note 1) |
| seq fig | fig_xx | for figures (note 1) |
| seq ref | ref_xx | for normative references |
| seq refi | ref_xx | for informative references |
| seq tab | tab_xx | for tables (note 1) |
| NOTE 1: Reset the sequence numbering to one for the first item of each annex of an ETSI deliverable by using the switch \r1 (e.g. { seq fig \r1 }). | | |
| NOTE 2: "xx" represents the identifier for the particular object concerned, e.g. "fig_ProcessControl" or "ref_en300466". Do not use bookmarks of the form "fig_fig1". You can use underscores as separators in sequence identifiers if necessary. | | |

Thus the title of a table will read:

Table { seq tab }: Table title

Bookmark each entry in a sequence (select it and use **Insert/Bookmark/Add**), using a bookmark name of the form shown in table 10. You can then refer to the table, figure, reference, etc. from the text by inserting a sequence field citing the same sequence identifier and the particular bookmark required. For example, table 10 has been bookmarked "tab_Seq_Num". Thus a reference to this table from the text reads:

- ... see table { seq tab tab_Seq_Num } ...

Remember to refresh the fields in order to view the correct numbers by using the "Update fields" command (F9).

7 Text containing SDL, program code, ICS and TTCN

7.1 SDL and MSC diagrams

There are three ways to include SDL diagrams (Specification and Description Language), MSC diagrams (Message Sequence Charts) or HMSC diagrams (High level MSC) as part of an ETSI deliverable.

- One is to embed SDL, MSC or HMSC diagrams in Word documents by selecting the diagram contents in the SDL/MSC tool and copy/paste into Word. Further editing as Word picture gives poor results and should be avoided.
- A second way is to include embedded postscript files produced by an SDL/MSC tool into the Word document.

In both these cases, provide SDL, MSC or HMSC diagrams in SDT binary files or as CIF files when not using SDT. Do not include SDL headers or footers.

- A third way is to provide the SDL model or MSC and HMSC diagrams as a separate file. This is recommended for large SDL models or large collection of MSC diagrams. In this case, provide CIF files, postscript or PDF files, and also if using SDT include the SDT binary files. If the SDL model uses ASN.1 data, include the ASN.1 data files, to be published with the CIF files.

NOTE: Microsoft® Visio® shall **not** be used for SDL production.

7.2 Program code

Large volumes of program code, source code or formal description language shall be placed in an electronic attachment accompanying the ETSI deliverable.

Machine readable code contained in an electronic attachment will be considered as the definitive text, in the case of discrepancy with text reproducing the same code in the ETSI deliverable.

Text to be used when files are attached to the document (if nothing already mentions it in the document) can be found in the appropriate skeleton document available from [editHelp!](#) website.

XML code may, in addition, be stored at the URI referenced in the XML code. XML code which uses the ETSI root URI <http://uri.etsi.org/xxxxx/> (where xxxxx is the five digit number obtained by removing the first digit of the ETSI document number, and any part or sub-part numbers) may, upon request, be stored by the ETSI Secretariat at the appropriate location in the <http://uri.etsi.org> space.

7.3 Implementation Conformance Statement (ICS) proforma tables

Use the guidance and the ICS proforma templates contained in EG 201 058 (available from [editHelp!](#) website).

7.4 Testing and Test Control Notation (formerly Tree and Tabular Combined Notation (TTCN))

Provide TTCN as separate file(s):

- For TTCN version 2 (TTCN-2) attach the TTCN.MP.
- For TTCN version 3 (TTCN-3) attach the TTCN-3 files and other related modules, as well as the HTML documentation of the TTCN-3 files.

The textblock to be used in case of ATs using TTCN-3 can be found in the appropriate skeleton document available from [editHelp!](#) website.

7.5 PC configuration

7.5.1 Configuration of your PC environment

Set your PC environment to use the English (International) conventions.

- Use centimetres as the preferred unit of measurement.
- Do **not** select Change 'Straight Quotes' to 'Smart Quotes' in the AutoCorrect options.
- Set Default Tab Stops to 0,5 cm.
- The remaining configurable elements of your PC are at your discretion.

7.5.2 Supported file formats

The following document formats are currently accepted by the ETSI Secretariat:

- Microsoft® Word 2007
- Microsoft® Word 2003
- Microsoft® Word XP

NOTE 1: Versions prior to this are strongly discouraged.

The following file formats for embedding into a document are currently accepted by the ETSI Secretariat:

- Microsoft® Visio® 2003 and 2007

NOTE 2: Regarding the use of "stencils" or "templates", it is recommended to use those supplied with the standard version.

If additional ones are used, they should be provided to the ETSI Secretariat, together with the electronic version of the deliverable.

NOTE 3: Microsoft® Visio® shall **not** be used for SDL production (see clause 7).

- Microsoft® Office® products

The information in this clause was valid at publication of the present document. Please consult the [editHelp!](#) website for subsequent updates.

8 Harmonized Standards

8.1 General directions

The appropriate skeleton document to assist the structuring and drafting of Harmonized Standards is available from [editHelp!](#) website).

The elements necessary for the drafting of a Harmonized Standard are briefly summarized below:

- a) The Harmonized Standard shall be an EN produced in accordance with the ETSI Drafting Rules.

- b) The EN shall be identified as a Harmonized Standard, the reference of which is intended to be published in the Official Journal of the European Union (OJEU) referencing the relevant Directive. This identification shall be made in the "Foreword" at "Public Enquiry", "EN Approval Procedure" and "National Vote" stage and when the standard is published by ETSI (see clause 8.2).
- c) The Harmonized Standard shall have appropriate transposition periods specified. A Harmonized Standard confers presumption of conformity when it has been published in the Official Journal of the European Union (OJEU) and transposed by a member state. The Official Journal citation gives the date of cessation of presumption of conformity of a previous standard. This is usually taken to be the date of withdrawal (dow) supplied by the standardization body.
- d) The Harmonized Standard shall include all technical specifications necessary for demonstrating presumption of conformity of the products and phenomena within its scope.
- e) Methods of measurement may be included in the Harmonized Standard, or may be normatively referenced in the text.
- f) The Harmonized Standard shall contain a normative annex identifying the technical specifications with the essential requirements of the relevant Directive (see clause 8.5).

NOTE 1: ETSI Guide EG 201 399 gives guidance on the production of Harmonized Standards for all radio equipment and telecommunication terminal equipment under Directive 1999/5/EC (the R&TTE Directive). This guide is available from [editHelp!](#) website.

NOTE 2: The information in this clause was valid at publication of the present document. Please consult the [editHelp!](#) website for subsequent updates.

8.2 Foreword of a Harmonized Standard

For the content of the foreword, see clause 2.5. The text block to be used in the foreword of the Harmonized Standard can be found in the appropriate skeleton document available from [editHelp!](#) website.

8.3 EMC statements

ETSI TC ERM WG EMC is responsible for standardization and statements that may be required to be included in any ETSI deliverables regarding the EMC performance.

There are a number of EMC standards from both ETSI and CENELEC that have been cited in the Official Journal of the European Union (OJEU) in connection with both the EMC Directive 2004/108/EC and the R&TTE Directive 1999/5/EC. Such Harmonized Standards can be used to demonstrate compliance with some or all of the essential requirements of the EMC Directive or the essential requirements of article 3.1(b) of the Radio equipment & Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC (see article 18).

If it is desired to give the user of the deliverable some guidance on EMC matters, the following text may be used in all ETSI deliverables (either as a separate clause or as the final element of the Scope):

"Requirements for EMC are outside the scope of the present document. Lists of relevant standards cited under the EMC Directive and the R&TTE Directive can be found at:

- http://ec.europa.eu/enterprise/policies/european-standards/documents/harmonised-standards-legislation/list-references/electromagnetic-compatibility/index_en.htm; and
- http://ec.europa.eu/enterprise/policies/european-standards/documents/harmonised-standards-legislation/list-references/rtte/index_en.htm.

8.4 Normative references in a Harmonized Standard

Normative references in Harmonized Standards shall be specific (identified by date of publication and/or edition number or version number). See clauses 2.10, 2.10.1.1 and 2.10.1.3.

8.5 Annex of a Harmonized Standard

The Harmonized Standard shall include an annex A as its first normative annex which presents a requirements table and conformance test specifications table (see also clauses 2.13 and 2.13.1).

The textblock and the table to be used in this annex can be found in the appropriate skeleton document available from [editHelp!](#) website.

8.6 The EN title in the official languages

Prior to publication in the Official Journal of the EU, the title of a Harmonized Standard has to be available in all of the official languages.

NOTE: The translated titles of Harmonized Standards are provided to ETSI by the relevant National Standards Organisation (NSO) during the public approval procedure (Public Enquiry, Vote and EN Approval Procedure).

9 Endorsement of documents from other standards organizations

In the case that an ETSI deliverable would become almost identical to (i.e. with or without modifications use the entirety of) a document from another standards organization, a Technical Body may decide to prepare an ETSI deliverable defining only the differences, if any, between that document (commonly called "endorsed document") and the ETSI deliverable.

Such an ETSI deliverable, commonly called "endorsement", shall be drafted in accordance with the ETSI Drafting Rules, in addition to clauses 9.2, 9.3 and 9.4.

Two kinds of endorsements are possible:

- Endorsement without modifications.
- Endorsement with modifications.

In both of the cases the endorsed text will be introduced by a clause titled "Endorsement notice".

9.1 Endorsement notice

The "Endorsement notice" clause is unnumbered and located after the "Definitions, symbols and abbreviations" clause. The "Endorsement notice" is a required normative element. The textblock to be used can be found in the appropriate skeleton document available from [editHelp!](#) website.

The preferred method of endorsement is defined in clauses 9.2 and 9.3.

In exceptional circumstances and in justified cases only, the methods defined in clause 9.5 may be used.

9.2 Endorsement without modifications

If the endorsed document is referred to without modifications, the title of the ETSI deliverable should be as close as possible to the title of the endorsed document, while still complying with the provisions of clause 2.1.

EXAMPLE:

Endorsement of ITU-T Recommendation Q.1215 (1993): "Physical plane for intelligent network CS1", gives the following ETSI deliverable title:

**Intelligent Network (IN);
Physical plane for intelligent network
Capability Set 1 (CS1)**

[ITU-T Recommendation Q.1215 (1993)]

The endorsement skeleton document available from [editHelp!](#) website provides exhaustive examples and textblocks to be used while drafting this kind of document.

9.3 Endorsement with modifications

If the endorsed document is referred to with modifications (technical and/or editorial), the title of the ETSI deliverable shall clearly indicate that this is the case (see example).

EXAMPLE:

Endorsement of ITU-T Recommendation G.957 (1993): "Optical interfaces for equipments and systems relating to the synchronous digital hierarchy", gives the following ETSI deliverable title:

**Transmission and Multiplexing (TM);
Optical interfaces for equipments and
systems relating to the Synchronous Digital
Hierarchy (SDH)**

[ITU-T Recommendation G.957 (1993), modified]

Throughout the document, the modifications shall be presented in an order following the sequence of clauses of the endorsed document. General modifications shall precede specific modifications.

- The use of underlining and striking out for the presentation of the modifications is recommended.

The endorsement skeleton document available from [editHelp!](#) website provides exhaustive examples and textblocks to be used while drafting this type of document.

9.4 Annex in endorsement document

Designation of the serial order of an annex shall be with two letters, the first letter always being Z (i.e. ZA, ZB, ZC, etc.), in order to avoid confusion with any annexes of the endorsed document.

9.5 Reproduction of text from other standards organizations in endorsements

9.5.1 General and copyright

In exceptional and justified cases, it may be desired to reproduce all or part of an endorsed document, in which case the ETSI deliverable shall be drafted according to either clause 9.5.2 or 9.5.3, and shall take into full consideration the following copyright requirements, unless the owner of the endorsed document agrees to make the document available for easy download from a website, the owner's, ETSI's or a third party site:

- A signed agreement between ETSI and the organization owning the copyright of the endorsed document shall be in place.

- The signed agreement shall permit ETSI to reproduce and make publicly available the deliverables of the other organization, either in part or in full.
- The resulting document becomes an ETSI deliverable with ETSI copyright and it may be desired by ETSI to modify the contents of the endorsed document either at the time of initial publication or later. It is implicit therefore that the signed agreement shall permit ETSI to modify the text of endorsed documents.

9.5.2 Inclusion without change

The ETSI deliverable (an endorsement without modification) shall be drafted in accordance with the ETSI Drafting Rules, in particular in accordance with clause 9.2.

ETSI shall not modify the endorsed document in any way and **the entire unchanged PDF copy of the endorsed document** shall be attached to the ETSI document.

The endorsement skeleton document available [editHelp!](#) website provides appropriate textblock to be used while drafting this type of document.

9.5.3 Inclusion with change

The ETSI deliverable (an endorsement with modification) shall be drafted in accordance with the ETSI Drafting Rules, in particular in accordance with clauses 9.3 and 9.4.

ETSI may modify the endorsed document and **the entire (modified) document** shall be included in the resulting ETSI deliverable (irrespective of whether it is all or part of the document which is being endorsed).

Glossary

bibliography: list of standards, books, articles, or other sources on a particular subject which are not mentioned in the document itself

deliverable: ETSI document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context

informative element: provides additional information intended to assist the understanding or use of the ETSI deliverable, but which can be removed without changing its technical substance

informative reference: not essential to the use of the ETSI deliverable but that assist the user with regard to a particular subject area

NOTE: Informative references mentioned in the document itself are numbered and listed in clause 2.2 (References) otherwise they are listed in an annex entitled "Bibliography".

informative reference clause: clause listing informative references cited in the document which are not necessary for its application but assist the user with regard to a particular subject area

instruction: provision that conveys an action to be performed (ISO/IEC Guide 2: 1996, definition 7.3)

normative element: sets out the provisions to which it is necessary to conform in order to be able to claim compliance with the ETSI deliverable

normative reference: essential to the use of the ETSI deliverable, i.e. without which the deliverable cannot be implemented

normative reference clause: clause listing normative references cited in the document which are necessary for its application

NOTE: For specific references, each shall be given with its year of publication or, in the case of enquiry with its year of issue, and full title. The year of publication or year of issue shall not be given for non-specific references. When a non-specific reference is to all parts of a document, the publication number shall be followed by the indication "(all parts)" and the general title of the series of parts.

provision: expression in the content of an ETSI deliverable, that takes the form of a statement, an instruction, a recommendation or a requirement

NOTE: These types of provision are distinguished by the form of wording they employ; e.g. instructions are expressed in the imperative mood, recommendations by the use of the auxiliary "should" and requirements by the use of the auxiliary "shall" (see clause 3.2).

publicly available: in the context of referencing documents within ETSI deliverables, a document that may be obtained from the source organization or its distribution channels by any person (with or without payment), simply by quoting the reference given in the ETSI deliverable to the source organization or other typical supplier (e.g. National Standards Organization, Library, etc.)

NOTE: ETSI deliverables are made publicly available during the various stages of the relevant approval procedures prior to publication and at the point of publication. Thus, for ETSI deliverables, public availability is a broader concept than publication. The specific status of a publicly available ETSI deliverable may be determined by examining its History clause.

This may also be true of other standardization bodies whose documents are referenced by ETSI and this is taken into account during the preparation of ETSI deliverables.

EXAMPLE: A Public Enquiry version of an ETSI deliverable is made publicly available by ETSI and, therefore, fulfils the above definition.

published: specific case of public availability for an ETSI deliverable, occurring when all relevant approval procedures have been successfully completed

NOTE: A published deliverable may be identified by examining the History clause of the document in question. The last line in the History box will contain the word "Publication".

recommendation: expression in the content of a document conveying that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited

NOTE: Table "4" specifies the verbal forms for the expression of recommendations.

requirement: expression in the content of a document conveying criteria to be fulfilled if compliance with the document is to be claimed and from which no deviation is permitted

NOTE: Table "3" specifies the verbal forms for the expression of requirements.

standard: document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context

statement: provision that conveys information (ISO/IEC Guide 2: 1996, definition 7.2)

Acronyms

For the purposes of the present document, the following abbreviations apply:

| | |
|-------|---------------------------------------------------------|
| ASCII | American Standard Code for Information Interchange |
| ASN.1 | Abstract Syntax Notation no. 1 |
| CIF | Common Interchange Format |
| EDRs | ETSI Drafting Rules |
| EN | European Standard |
| EG | ETSI Guide |
| EMC | ElectroMagnetic Compatibility |
| ES | ETSI Standard |
| ETS | European Telecommunication Standard |
| GDMO | Guidelines for the Definition of Managed Objects |
| GR | Group Report |
| GS | Group Specification |
| HMSC | High level MSC |
| ICS | Implementation Conformance Statement |
| IPR | Intellectual Property Rights |
| LVD | Low Voltage Directive |
| MP | Machine Processable |
| MSC | Message Sequence Charts |
| NSO | National Standards Organisation |
| OJEU | Official Journal of the European Union |
| PDF | Portable Document Format |
| R&TTE | Radio equipment & Telecommunications Terminal Equipment |
| SDL | Specification and Description Language |
| SDT | SDL Development Tool |
| SR | ETSI Special Report |
| TB | Technical Body |
| TC | Technical Committee |
| TR | ETSI Technical Report |
| TS | ETSI Technical Specification |
| TTCN | Testing and Test Control Notation |
| TTCN | Tree and Tabular Combined Notation |

NOTE: The introduction of TTCN-3 led to a name change from Tree and Tabular Combined Notation to Testing and Test Control Notation. It shall be made clear in each ETSI deliverable which version of TTCN applies.

TWP Technical Working Procedures

History

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|------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| V33 | May 2014 | <p>Publication in the ETSI Directives</p> <p>New structure of the ETSI Drafting Rules</p> <p>Details of this new structure are available in document OCG(14)52_55 titled "Simplification of the ETSI Drafting Rules"</p> <p>New clause "Modal verbs terminology"</p> <p>Addition of required informative clause "Modal verbs terminology" between "Foreword" and "Executive summary".</p> <p>2.6 Modal verbs terminology</p> <p>The "Modal verbs terminology" appears after the "Foreword", it shall not be numbered. It is a required informative element.</p> <p>The "Modal verbs terminology" specifies how the modal verbs shall be used within the ETSI deliverable (see also clause 3.2).</p> <p>The content, provided by the ETSI Secretariat, shall not be modified and can be found in the skeleton documents available from editHelp! website.</p> <p>Changes made to table 2 "Requirements"</p> <p>Do not use "must" except when used in direct citation as an alternative for "shall". (This will avoid any confusion between the requirements of a document and external statutory obligations.)</p> |