Intermediate 1

Course 3

STANDARDISATION TRAINING ACADEMY

Topic:

HOW STANDARDS ARE DEVELOPED WITHIN SDOS IN EUROPE

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Author:
Ana Kicanovic
University of Belgrade, Faculty of Organisational Sciences

Module Objectives

After completing this module, you should be able to:
1. understand how standards development processes within SDOs are settled;
2. understand which deliverables are developed by CEN/CENELEC;
3. understand which deliverables are developed by ETSI; and
4. understand which deliverables might be a good choice in a specific situation.

Key Terms

CEN/CENELEC deliverables, CEN/CENELEC Guide, CEN/CENELEC Technical Report (TR), CEN/CENELEC Technical Specification (TS), CEN/CENELEC Workshop Agreements (CWA), European Standard (EN), ETSI Standard (ES), ETSI Guide (EG), ETSI Technical Specification (TS), ETSI Technical Report (TR), ETSI Special Report (SR), ETSI Group Specification (GS), ETSI Group Report (GR), Flexible Standards Development Process

About The Author

Ana Kicanovic

University of Belgrade in Serbia

Ana Kicanovic is an Assistant Professor at the Faculty of Organisational Sciences, University of Belgrade, Serbia. She is working at the Department of Quality Management and Standardisation. She completed her Ph.D. Studies on thesis: *The Quality Maturity Model of Health Care Organisations based on Complexity Theory*. Her main research interests are quality management, standardisation, leadership, and corporate social responsibility. She has published over 30 research papers in specialised scientific journals and national and international conferences. She acted as a reviewer for several WOS indexed scientific journals.

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1 THE DEVELOPMENT PROCESS OF CEN/CENELEC STANDARDS AND OTHER DELIVERABLES

The new EU Strategy on Standardisation (2022) aims to enable resilient, green, and digital strengthening of the EU single market. [1] The Strategy sets up a series of actions such as prioritising and addressing standardisation needs in strategic areas, improving the governance and integrity of the European standardisation system, enhancing European leadership in global standards, supporting innovation, and enabling the next generation of standardisation experts. European organisations for standardisation – CEN and CENELEC develop European Standards (ENs) and other publications, including Technical Specifications (TSs), Technical Reports (TRs), Workshop Agreements (CWAs), and Guides.

CEN/CENELEC deliverables are (Figure 1):

- **the European Standard (EN)** is defined as a "standard adopted by CEN and/or CENELEC and carrying with it an obligation of implementation as an identical national standard and withdrawal of conflicting national standards". [2]
- **Technical Specification (TS)** acts as a normative document in areas where the actual state of the art is not stable enough to be a European Standard. [3] State-of-the-art is defined as a "developed stage of technical capability at a given time as regards products, processes, and services, based on the relevant consolidated findings of science, technology, and experience". [4]
- **Technical Report (TR)** serves as a document for information and knowledge transfer. [5]
- **CWA** is defined as a "CEN and/or CENELEC deliverable developed by a Workshop, which reflects an agreement between identified individuals and organisations responsible for its contents". [6]
- **The Guide** gives information about standardisation principles and policies and guidance to standards writers. [7]

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[1] Radauer, A., Baronowski, S., Yeghyan, M., et al. (2022), Scoping study for supporting the development of a code of practice for researchers on standardisation: final report, Tardos, G.(editor), European Commission, Directorate-General for Research and Innovation, Publications Office of the European Union, 2022. Accessed on January 23, 2023. Retrieved from: https://data.europa.eu/doi/10.2777/567608, pp. 13.

[2] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium, Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[3] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[4] ISO/IEC. (2004). ISO/IEC Guide 2:2004 Standardization and related activities — General vocabulary. Accessed on January 23, 2023. Retrieved from: https://isotc.iso.org/livelink/livelink/Open/8389141

[5] ISO/IEC. (2004). ISO/IEC Guide 2:2004 Standardization and related activities — General vocabulary. Accessed on January, 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[6] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium, Accessed on January, 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[7] CEN. (2022). CEN Deliverables ppt. Accessed on January, 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/
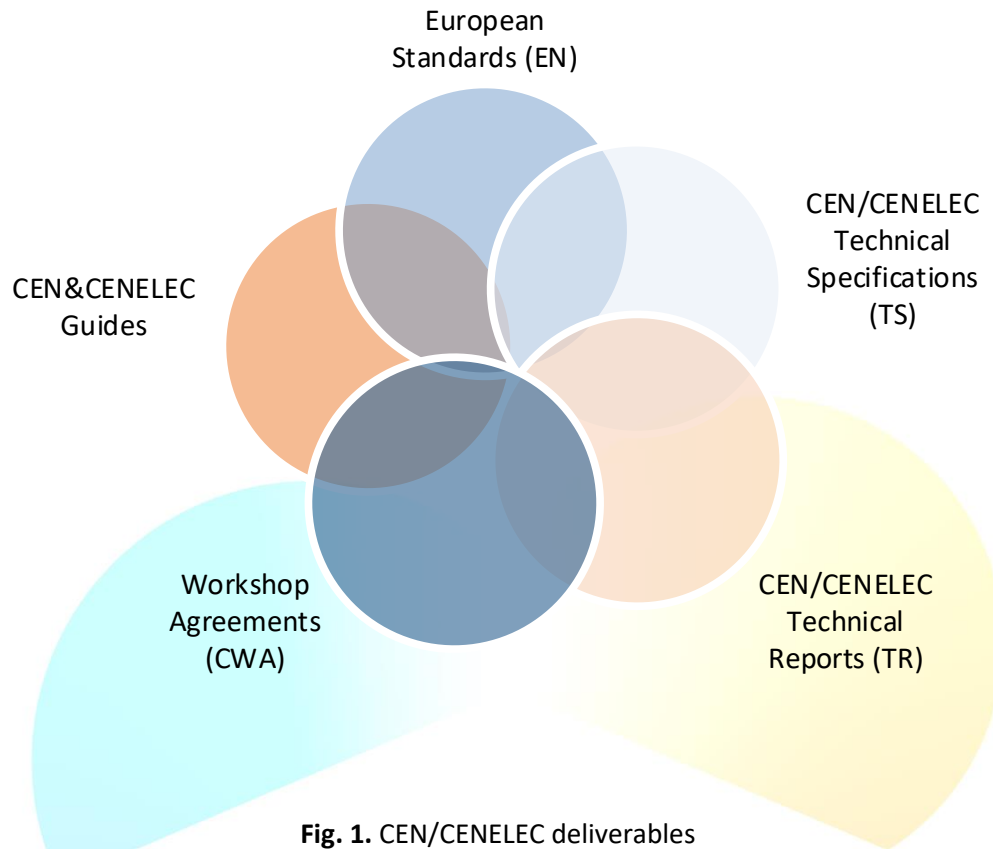
Fig. 1. CEN/CENELEC deliverables

The European Telecommunications Standards Institute (ETSI) develops European Standards (ENs) and other publications, including ETSI Standards (ESs), ETSI Guides (EGs), ETSI Technical Specifications (TSs), ETSI Technical Reports (TRs), ETSI Special Reports (SRs), ETSI Group Specifications (GSs) and ETSI Group Reports (GRs).

ETSI deliverables are: [8]

ETSI Standard (ES) is an ETSI deliverable that contains technical requirements.[9]

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[8] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.
[9] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

ETSI Guide (EG) guides ETSI in general on handling specific technical standardization activities. [10]

ETSI Technical Specification (TS) is a document that contains technical requirements, and it is essential for its development that it is available for use fast. [11]

ETSI Technical Report (TR) is used when the document contains explanatory material. [12]

ETSI Special Report (SR) is used for different purposes, including making information publicly available for reference. [13]

ETSI Group Specification (GS) provides technical requirements, explanatory material, or both. [14]

ETSI Group Report (GR) is an ETSI deliverable containing informative elements. [15]

To learn more about the ETSI deliverables, please visit the following link:

- https://www.etsi.org/standards/types-of-standards

The values related to EN's development process are: [16]

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[10] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[11] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[12] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[13] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[14] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[15] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[16] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

- consensus is defined as "general agreement, characterised by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments (Note: consensus need not imply unanimity)". [17]
- openness refers to all interested parties that can be involved in standards development via national delegations. [18]
- transparency depicts the transparent information regarding standard proposals, which are publicly announced, and the information about the draft of work is available as public information when everybody can comment during the enquiry phase of development. [19]
- national commitment refers to an EN's formal decision, which relies on the votes of CEN national members. [20] CEN national members agree that no publication or revision of national standards conflicting with EN shall appear, or if there seems to exist, any conflicting national standards must be withdrawn.
- technical coherence refers to ensuring continuity and consistency of technical content given by an EN benefits users at national and European levels. [21]

1.1   THE EUROPEAN STANDARD (EN) DEVELOPMENT PROCESS

A European Standard (EN) is developed by one of the three European Standardisation Organisations (ESOs): CEN, CENELEC, or ETSI, as a vital element of the Single European Market. [22] All interested parties produce it through a transparent, open and consensus-based process. [23] The ENs are published at the national level, and every conflicting national standard and any other conflicting European Standard must be withdrawn. [24]

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[17] ISO/IEC. (2004). ISO/IEC Guide 2:2004 Standardization and related activities — General vocabulary. Accessed on January 23, 2023. Retrieved from: https://isotc.iso.org/livelink/livelink/Open/8389141

[18] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[19] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[20] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[21] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[22] CEN/CENELEC. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/european-standardization/european-standards/types-of-deliverables/

[23] CEN/CENELEC. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/european-standardization/european-standards/types-of-deliverables/

[24] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 29.

Accomplishing that there are no conflicting European standards, they are periodically reviewed, and this applies during the development and whole lifetime of the European Standard. [25]

The stages of the EN development process (EN process) are given in Figure 2.

[25] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 29.

Proposal

- A proposal for a new standard can be introduced by any interested party, although most suggestions come from CEN and CENELEC members. Considering if and which CEN and/or CENELEC publication will be developed is the decision of the CEN/CENELEC Technical Board. When the Technical Board accepts a project to create an EN, the members' countries take an obligation called "standstill", which means they put all efforts to be focused on the development of EN. "Standstill" requires they do not begin any new projects or revisions of existing standards at the national level. The Technical Board (BT) is responsible for supervising the standards development and supporting its rapid execution by the CEN-CENELEC Management Centre (CCM C), Technical Committees and other bodies. Proposals may be made of national origin and presented to the relevant CEN and/or CENELEC member, which may submit proposals for new projects to the Technical Board. Also, submissions may be created by "CEN and/or CENELEC technical bodies, the European Commission or the EFTA Secretariat, by international organisations or by European trade, professional, technical or scientific organisations".

Drafting

- In the beginning, if there is international work in a specific field, and if so, is it adequate as an European Standard, or can it be developed within international agreements with ISO and IEC? If there is no proper international work, the Drafting of the standard will be produced by experts within a Technical Committee (TC) in the field concerned. Once the Technical Committee is settled, mirror committees of stakeholders at the national level are established, and they decide on the national contributions regarding the development of the standard. Further, in consultation with the secretary, the Chair of the Technical Committee determines the submission of drafts to voting procedures applying the consensus principle. Also, Technical Committees include several observers of the EN development process, such as ISO/IEC members, European Commission/EFTA, European partner organisations, external European industry associations and other affiliate bodies. Last, when consensus has been reached, starts the process called Enquiry.

Enquiry

- Enquiry implies the draft standard (abbreviated prEN) agreed by the technical body being forward by the Technical Committee secretariat to the CCMC, to be distributed to the CEN and/or CENELEC members for public comment. The members gather these views and then submit a national position through a weighted vote, which the Technical Body evaluates. Suppose the Enquiry result is positive and no changes to the technical content were accepted. In that case, the Technical Committee may skip the Formal Vote and proceed directly to publication. But if the Enquiry result is negative, a final text shall be prepared by the Technical Committee secretariat for the Formal Vote.

Formal Vote

- Finally, approval of the final text of a draft standard (abbreviated FprEN) shall be completed by a Formal Vote of members. The voting procedure is given in CEN-CENELEC Internal Regulations - Part 2 (For more information see Additional materials, see clause 6.2).

Publication

- After the approval of EN from the Enquiry or the formal Vote, the EN is published. Six months from the date of the availability of EN, all member countries must give the European Standard the status of national standard and have an obligation to withdraw any conflicting national standards.

Review and consequences

- The responsible technical body shall ensure that ENs are periodically reviewed within five years of publication. The outcome of this review is the EN's confirmation, modification, revision or withdrawal.

Fig. 2. EN process [26] [27] [28]

European Standards are published in 3 official languages: English, French, and German, and CEN and CENELEC members can also translate these standards into their language. [29]

1.1.1 THE FLEXIBLE STANDARDS DEVELOPMENT PROCESS

In February 2021, CEN and CENELEC developed a new standards development process called "the Flexible standards development process". [30] This new process implies that the technical committees are entirely responsible for the timely and effective delivery of standards by enabling them to autonomously plan and organise their work within a specified maximum timeframe. [31] Timely and effective delivery applies on the duration of the Drafting and Formal Vote stages, or stage after Enquiry if the formal Vote is skipped, of the EN development process, which previously was fixed on 34 weeks. The Technical Committee decides the duration of the two abovementioned stages according to its needs. The main benefits from the process are improvement of the timely delivery of standards and reduced risk of automatic cancellation of the draft due to late delivery.

The links to recordings about the Flexible standards development process are available at:

🔗 https://boss.cen.eu/reference-material/guidancedoc/pages/flexstdprocess/

1.2 THE CEN/CENELEC TECHNICAL SPECIFICATION (TS) DEVELOPMENT PROCESS

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[26] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 29-33.

[27] CEN/CENELEC. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/european-standardization/european-standards/types-of-deliverables/

[28] CEN/CENELEC. (2022b). European standards. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/european-standardization/european-standards/

[29] CEN/CENELEC. (2022b). European standards. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/european-standardization/european-standards/

[30] CEN/CENELEC. (2021). Flexible standards development process. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CEN/ref/flex_process_operational.pdf

[31] CEN/CENELEC. (2022b). European standards. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CEN/ref/flex_process_operational.pdf

As mentioned before, Technical Specification (TS) act as a normative document in areas where the actual state of the art is not stable enough to be a European Standard. [32] TS is defined as "a document adopted by CEN and/or CENELEC for which there is the future possibility of agreement on a European Standard, but for which at present:

- the required support for approval as a European Standard cannot be obtained,
- there is doubt on whether consensus has been achieved,
- the subject matter is still under technical development, or
- there is another reason precluding publication as a European Standard." [33]

The stages of the TS development process are given in Figure 3.

| Proposal | Drafting | Approval | Availability | Updating and review |

Fig. 3. TS development process [34]

A flowchart is given in Figure 4.

[32] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/
[33] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[34] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work. Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 34-35.
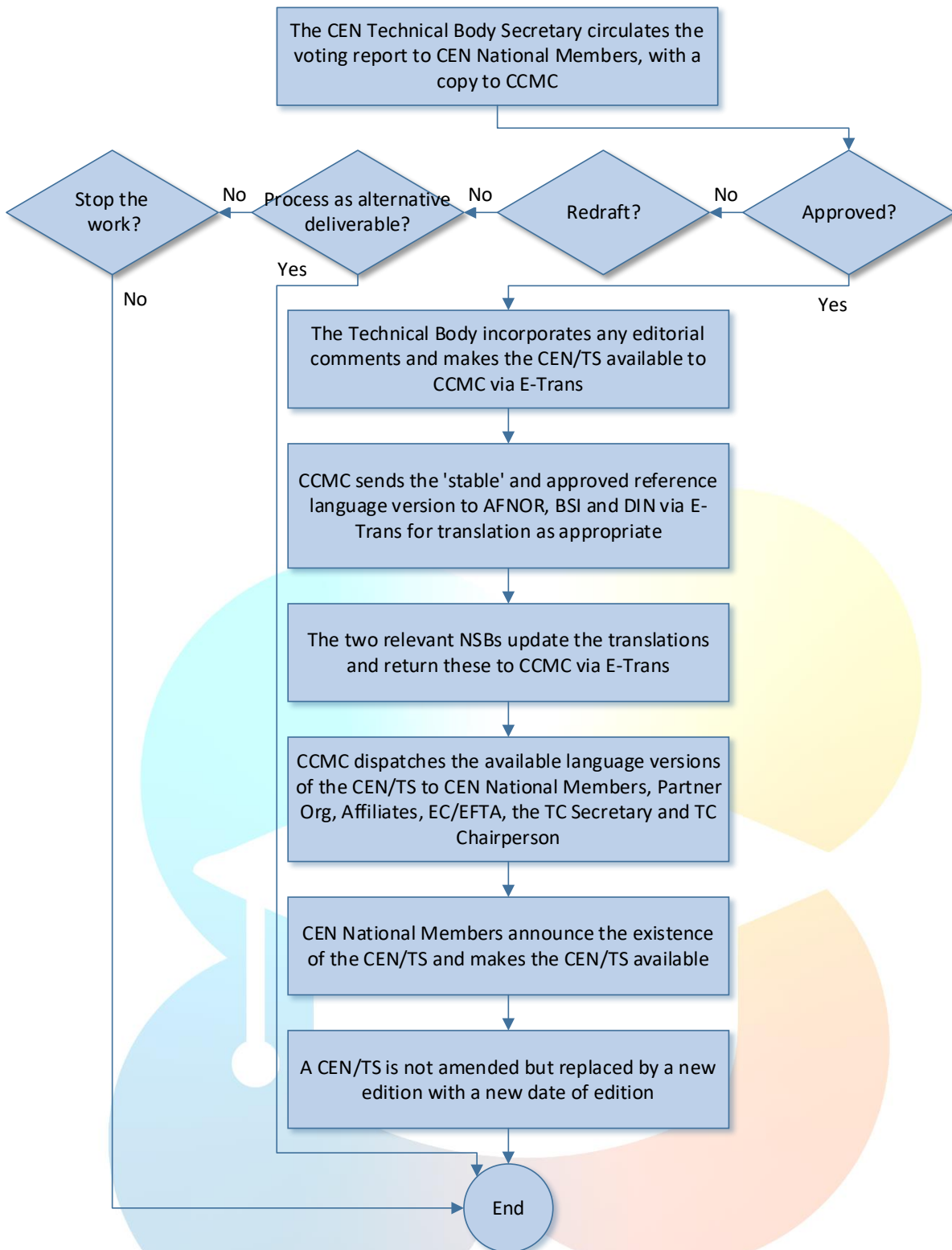
Start

The BT or TC decides to develop a CEN/TS and allocates the work

The drafting body drafts or edits the CEN/TS

The Secretary of the TC sends the FprCEN/TS to CCMC via E-Trans

Exceptional case
Where appropriate, CCMC also sends the draft CEN/TS to CEN Consultants for evaluation

Refer to process 'European Standards for citation in the Official Journal'

CCMC checks the completeness and accuracy of documentation

CCMC allocates a FprCEN/TS number and sends it via E-Trans for production of missing language versions or confirmation that no translation will be provided

The relevant NSBs prepare the translations and return them via E-Trans to CCMC

CCMC circulates the FprCEN/TS in the available language versions to all CEN National Members for final approval

Vote in meeting

Vote by correspondence

Delegations shall be briefed in order to take into account views of all interests concerned in their country

CEN National Members are granted a three-month term for consultation at national level and voting

The Technical Body may only comment on documents circulated to all CEN National Members

CEN National Members vote on E-Ballotting and Commenting platform within the three-month period

At the meeting, the CEN/TC reviews comments and decides by taking a Decision to put the FprCEN/TS to vote on the basis of the draft and changes that have been agreed

The responsible Technical Body Secretary collates and assesses the results via the E-Ballotting platform

The CEN Technical Body Secretary circulates the voting report to CEN National Members, with a copy to CCMC

Stop the work?

No ← Process as alternative deliverable? ← No ← Redraft? ← No ← Approved?

Yes

Yes

No

The Technical Body incorporates any editorial comments and makes the CEN/TS available to CCMC via E-Trans

CCMC sends the 'stable' and approved reference language version to AFNOR, BSI and DIN via E-Trans for translation as appropriate

The two relevant NSBs update the translations and return these to CCMC via E-Trans

CCMC dispatches the available language versions of the CEN/TS to CEN National Members, Partner Org, Affiliates, EC/EFTA, the TC Secretary and TC Chairperson

CEN National Members announce the existence of the CEN/TS and makes the CEN/TS available

A CEN/TS is not amended but replaced by a new edition with a new date of edition

End

Fig. 4. Flowchart of TS development process [35]

Proposal. Any interested party can introduce a proposal, although most suggestions come from CEN and CENELEC members. [36]

Drafting. A TS is drafted by a CEN and/or CENELEC technical body. [37]

Approval. A TS is approved by a weighted vote by the CEN and/or CENELEC national members. If the vote result is negative, the CEN and/or CENELEC technical body decides to review the draft TS, process it as an alternative publication, or stop the work. [38]

Availability. After approval, a TS is immediately made available to the CEN and/or CENELEC members with all the necessary information. [39]

Updating and Reviewing. The responsible CEN and/or CENELEC technical body shall ensure that a TS is reviewed within three years from its availability date. [40] A TS may be adopted as a national standard. Still, conflicting national standards may continue to exist. A TS may not conflict with an EN, and if a conflicting EN is subsequently published, the TS is withdrawn. [41]

1.3 THE CEN/CENELEC TECHNICAL REPORT (TR) DEVELOPMENT PROCESS

[35] CEN. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from:
https://boss.cen.eu/media/CEN/developingdeliverables/ts/documents/ts.pdf
[36] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[37] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[38] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[39] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[40] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[41] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

A Technical Report (TR) is defined as: ''a document adopted by CEN and/or CENELEC containing informative material which is not suitable to be published as an EN or as a TS (a TR may include, for example, data obtained from a survey carried out among the members, data on work in other organizations, or data on the state-of-the-art in relation to national standards on a particular subject)''. [42]
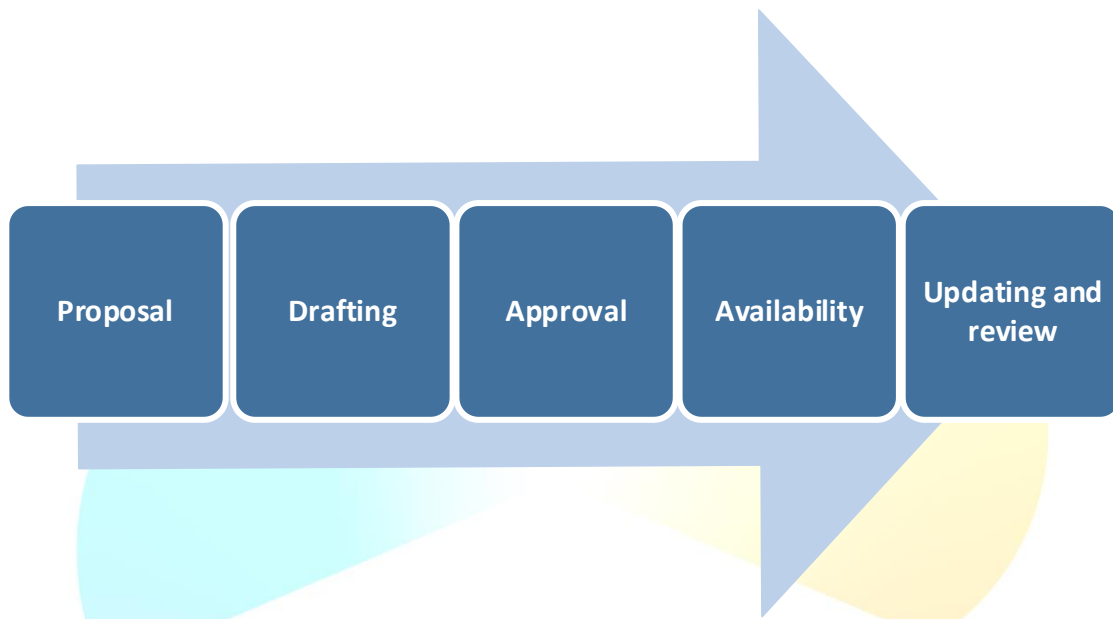
The stages of the TR process are given in Figure 5.

Fig. 5. TR development process [43]

Proposal. The proposal is issued by CEN and/or CENELEC members. A TR provides technical information on standardisation work and is developed to provide information to the CEN and CENELEC national members, the European Commission (EC), the European Free Trade Association (EFTA) Secretariat, governmental agencies or outside bodies. [44] The reason for developing a TR may be due to failure to gain approval of a draft EN or draft TS. [45]

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[42] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[43] CEN. (2022). CEN Deliverables ppt. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/reference-material/guidancedoc/pages/del/

[44] CEN. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/developingdeliverables/pages/en/pages/

[45] CEN. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/developingdeliverables/pages/en/pages/

Drafting. Within the agreed timeframe, the drafting body either drafts the CEN/TR in one of the CEN/CENELEC official languages/under CEN/CENELEC Internal Regulations – Part 3 [46] or adapts the draft based on failed draft EN or draft TS. [47]

Approval. CEN and/or CENELEC members approve the TRs by a vote. The responsible CEN and/or CENELEC technical body assesses the ballots. If the vote result is positive, the TR continues to be published. If the vote result is negative, the responsible CEN and/or CENELEC technical body shall decide to review the draft or stop the work. [48]

Availability. After approval, the TR is immediately made available to the CEN and/or CENELEC members with all the necessary information. [49]

Updating and reviewing. The responsible CEN and/or CENELEC technical body shall ensure that TR is reviewed within its lifetime to ensure that they remain valid. [50]

1.4 THE CEN/CENELEC WORKSHOP AGREEMENT (CWA) DEVELOPMENT PROCESS

The CEN/CENELEC Workshop Agreement (CWA) is defined as a "CEN and/or CENELEC deliverable developed by a Workshop, which reflects an agreement between identified individuals and organisations responsible for its contents". [51] CWAs do not have the status of a European Standard, but they can become a European standard or be incorporated into the existing one. [52] CWAs are developed as "standards-light-like instruments", which do not require complete stakeholder consensus for the rapidly changing technologies. To researchers engaged in Horizon projects, CWAs are the way to get involved by creating inputs for standard

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[46] CEN/CENELEC. (2022d). CEN- CENELEC Internal Regulations – Part 3, Principles and rules for the structure and drafting of CEN and CENELEC documents (ISO/IEC Directives — Part 2:2021, modified), Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir3_e.pdf

[47] CEN. (2022a). Developing deliverables. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/developingdeliverables/pages/en/pages/

[48] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[49] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[50] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[51] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium, Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

[52] CEN/CENELEC. (2022f). Brochure - Catalysing standardisation in R&I projects. Accessed on January 23. Retrieved from: https://www.standardsplusinnovation.eu/_files/ugd/8442a0_e295c1d118ed457485c58c3a199dc469.pdf

development within the lifetime of a single project. [53] In cases where an innovative solution has yet to reach a satisfactory level of stability, developing a formal standard is less suitable. [54] The CWAs are just what the stakeholder needs at curtain time. CWAs and similar reference documents could be instruments for disseminating research results and good practices as the outcomes of research projects.

A CWA is a "document published by CEN and/or CENELEC in at least one of the three official languages". [55] A CWA can take a different form, such as a text file or code, and it is developed to meet an urgent need of the stakeholders interested in the issue. [56] Therefore, developing time for the drafting document is short, usually about 6 to 12 months.

A CEN/CENELEC Workshops are established to deal with tasks specified in its project plan and are separated from Technical Committees. [57] A CWA can be proposed for conversion into a European standard to a Technical Committee. If they approve the proposal, CWA has to go through the standard development process by the rules of CEN/CENELEC. [58]

The stages of the CWA development process are given in Figure 6.

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[53] Radauer, A., Baronowski, S., Yeghyan, M., et al. (2022), Scoping study for supporting the development of a code of practice for researchers on standardisation: final report, Tardos, G.(editor), European Commission, Directorate-General for Research and Innovation, Publications Office of the European Union, 2022. Accessed on January 23, 2023. Retrieved from: https://data.europa.eu/doi/10.2777/567608, pp. 13.

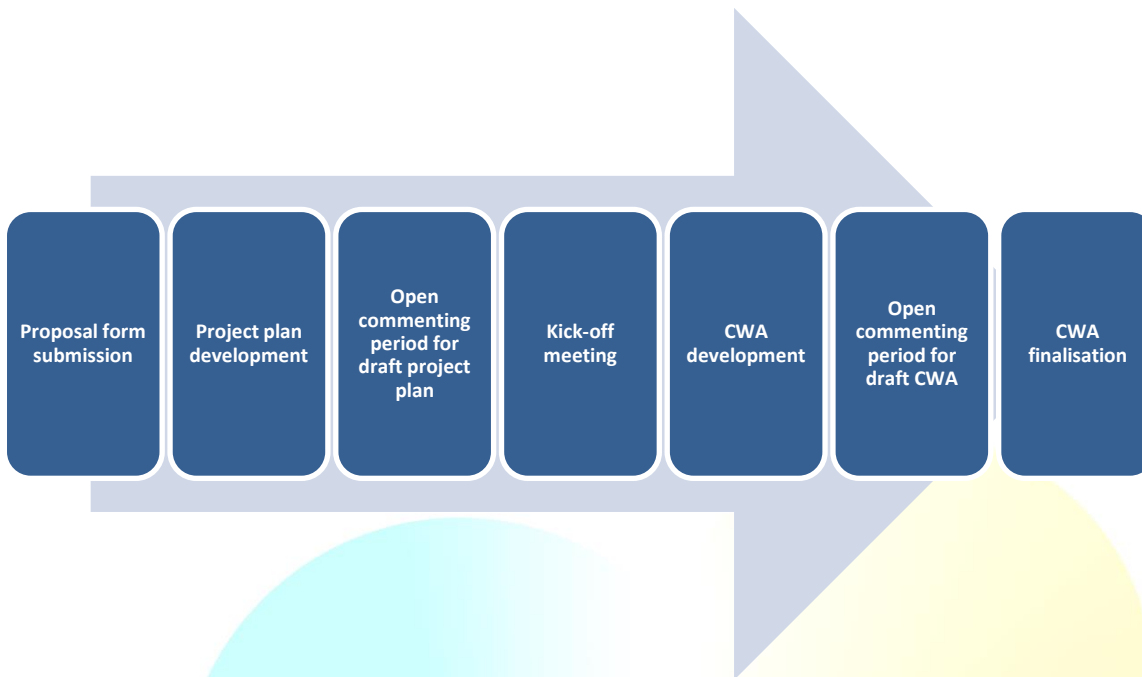[54] CEN/CENELEC. (2020b), CEN/CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 7.

[55] CEN/CENELEC. (2022a). Accessed on January 23. Retrieved from: https://www.cencenelec.eu/european-standardization/european-standards/types-of-deliverables/.

[56] CEN/CENELEC. (2020b), CEN/CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 5.

[57] CEN/CENELEC. (2020b), CEN/CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 7.

[58] CEN/CENELEC. (2020b), CEN/CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 7.

Fig. 6. CWA development process [59]

Proposal form submission. The CEN/CENELEC Workshop secretariat shall submit the prepared Workshop proposal form to the Director Standardisation of The CEN-CENELEC Management Centre (CCMC) for allocation to a CCMC project manager. [60] Furthermore, suppose CEN/CENELEC Technical Bodies were identified in the CEN/CENELEC Workshop proposal form. In that case, the form shall be submitted to them by the CEN/CENELEC Workshop secretariat for a 30-day consultation, as well as to other relevant groups such as CEN/CENELEC Sector Fora, Focus Groups and Coordination Groups for information. [61]

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[59] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 5.

[60] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 8.

[61] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 8.

If the Technical Body has no objections to the CWA being developed, the CEN/CENELEC Workshop proposal may go forward. [62] However, if the Technical Body is opposed to the CEN/CENELEC Workshop launch, the CEN/CENELEC Workshop proposal shall be submitted to the CEN/CENELEC BT(s) for decision. [63]

Project plan development. The proposer of the CEN/CENELEC Workshop prepares a draft project plan with the help of the CEN/CENELEC Workshop secretariat. [64]

The open commenting period for a draft project plan. A public commenting phase is recommended to ensure a transparent process but is voluntary except when the CWA deals with safety issues. [65]

Kick-off meeting. At the kick-off meeting, all the project plan elements shall be agreed on by those participants wishing to proceed. The CEN/CENELEC Workshop secretariat appoints the CEN/CENELEC Workshop chair. [66]

CWA development. In this phase, Workshop participants develop the draft of the CWA. [67]

Open commenting period for draft CWA. A public commenting phase is recommended to ensure a transparent process but is voluntary except when the CWA deals with safety issues. The drafting phase shall

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[62] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 8.

[63] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 8.

[64] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 8.

[65] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 9.

[66] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 9.

[67] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, pp. 10.

be considered complete once the CEN/CENELEC Workshop Chair believes the agreement regarding comments has been reached among the CEN/CENELEC Workshop participants. [68]

CWA finalisation. The CEN/CENELEC Workshop Chair decides when the CEN/CENELEC Workshop participants have agreed on the final text of the CWA based on the comments received and further consultation that occurred. [69] At this point, the CWA is approved.

A detailed description of the process for developing CWA is given in CEN/CENELEC Guide 29. [70]

The list with the links for downloading CWAs resulting from an EU-funded project is available at:

- https://www.cencenelec.eu/get-involved/research-and-innovation/cen-and-cenelec-activities/cwa-download-area/

1.5 THE CEN/CENELEC GUIDE DEVELOPMENT PROCESS

A CEN/CENELEC guide is a "document published by CEN and/or CENELEC giving rules, orientation, advice or recommendations relating to European standardisation". [71] CEN/CENELEC guides may be developed with a reason to serve the purpose of: [72]

- providing technical or administrative orientation to the work of CEN and/or CENELEC, advising on how to deal with matters of standardisation,

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[68] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, pp. 10.

[69] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, pp. 10.

[70] CEN/CENELEC. (2020b), CEN- CENELEC Guide 29 – CEN/CENELEC workshop agreements – A rapid way to standardisation. Accessed on January 23, 2023. Retrieved from: https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclcguide29.pdf, p. 7.

[71] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 36-37.

[72] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, pp. 37. Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 36-37.

- collecting decisions of a CEN and/or CENELEC corporate body on specific general questions for future equal treatment of such questions,
- providing information or guidance on matters of conformity assessment concerning the standardisation activities of CEN or CENELEC.

Drafts of the Guides are developed under CEN/CENELEC Internal Regulations – Part 3. [73] General Assembly approves guides (AG), Administrative Board (CA) or Technical Board (BT) by majority vote. [74] If a Guide fails the vote, it is sent back to the drafting body. [75] After approval, the Guide is immediately made available to the CEN and/or CENELEC members with all the necessary information. [76] When appropriate, Guides are revised by the body that has approved that Guide. Further, withdrawal is possible by the majority of the vote. [77]

Table 1 and Table 2 show the designation system for CEN deliverables and summarize the main steps of development for each CEN deliverable.

Table 1. Designation system for CEN deliverables [78]

	European Standard	Technical Specification	Technical Report	CEN Workshop Agreement	CEN Guide
Developed in CEN	EN XXXX	CEN/TS XXXX	CEN/TR XXXX	CWA XXXX	CEN Guide AA
Identical to an ISO document					

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[73] CEN/CENELEC (2022d). CEN- CENELEC Internal Regulations – Part 3, Principles and rules for the structure and drafting of CEN and CENELEC documents (ISO/IEC Directives — Part 2:2021, modified), Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir3_e.pdf

[74] CEN/CENELEC (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 36-37.

[75] CEN/CENELEC (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 36-37.

[76] CEN/CENELEC (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 36-37.

[77] CEN/CENELEC (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf, pp. 36-37.

[78] CEN. (2022c). Designation system for CEN deliverables. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/CEN/ref/cen_deliverables_table1.pdf, pp. 36-37.

| ISO AAAA	EN ISO AAAA	Not recommended	Not recommended	Not recommended	Not recommended
ISO/TS AAAA	EN XXXX (*	CEN ISO TS AAAA	Not recommended	Not recommended	Not recommended
ISO/TR AAAA	EN XXXX (*	CEN/TS XXXX (*	CEN ISO TR AAAA	Not recommended	Not recommended
ISO Guide BB	Not recommended	Not recommended	Not recommended	Not recommended	CEN ISO Guide BB
ISO/PAS	No alignment for the time being	No alignment for the time being	No alignment for the time being	No alignment for the time being	No alignment for the time being
IWA	No alignment for the time being	No alignment for the time being	No alignment for the time being	No alignment for the time being	No alignment for the time being
* If an ISO deliverable is adopted as a higher-level CEN deliverable, it is required to be approved under the conditions of the higher-level CEN deliverable and is issued then with a discrete CEN number, not using the ISO number.					

Table 2. Main steps of development for CEN deliverables [79]

	EN	**CEN/TS**	**CEN/TR**	**CWA**	**CEN Guide**
Technical or other Body (initiation)	CEN/TC	CEN/TC	CEN/TC	CEN Workshop	BT or CA
Participation	Through National delegations	Through National delegations	Through National delegations	Through direct participation	Through National delegations
Interests represented	All	All	All	Specific	All
Standstill	Yes	No	No	No	No

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[79] CEN. (2022b). Main steps of development for each CEN deliverable. Accessed on January, 23, 2023. Retrieved from:
https://boss.cen.eu/media/CEN/ref/cen_deliverables_table2.pdf

Public Enquiry	Yes – 12 weeks	No	No	Optional	No
Level of approval	CEN National members	CEN National Members	CEN National Memb ers	CEN Workshop participants	AG, CA or BT
Rule for approval	Weighted vote	Weighted vote	Simple majority	Agreement amongst participants	Simple majority
National announcement	Yes	Yes	Optional	Yes	Optional
National availability	Yes	Yes	Optional	Optional	Optional
Publication	National Standard	Optional	Optional	Optional	Optional
Withdrawal of national conflicting standards	Yes	No	No	No	No
Languages	3 CEN official languages	At least one official language	At least one official language	At least one official language	At least one official language
Review	At least every 5 years	At least every 3 years	No limit	At least every 3 years (max 6-year lifetime)	No limit

SUMMARY

The new EU Strategy on Standardisation (2022) aims to enable resilient, green, and digital strengthening of the EU single market. [80] The Strategy sets up a series of actions such as prioritising and addressing standardisation needs in strategic areas, improving the governance and integrity of the European standardisation system, enhancing European leadership in global standards, supporting innovation, and enabling the next generation of standardisation experts. European organisations for standardisation – CEN and CENELEC develop European Standards (ENs) and other publications, including Technical Specifications (TSs), Technical Reports (TRs), Workshop Agreements (CWAs), and Guides. The European Telecommunications Standards Institute (ETSI) develops European Standards (ENs) and other publications, including the ETSI Standards (ESs), ETSI Guides (EGs), ETSI Technical Specifications (TSs), ETSI Technical Reports (TRs), ETSI Special Reports (SRs), ETSI Group Specifications (GSs), and ETSI Group Reports (GRs).

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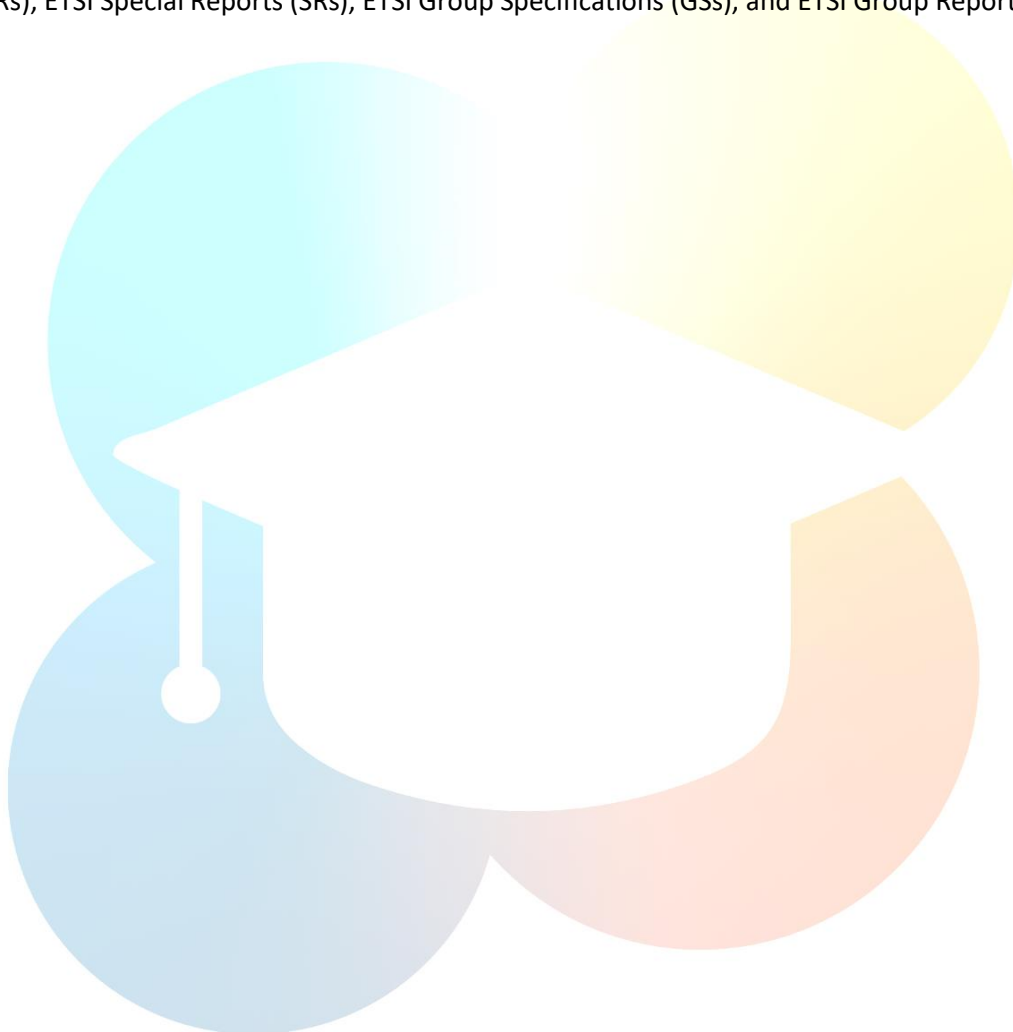
[80] Radauer, A., Baronowski, S., Yeghyan, M., et al. (2022), Scoping study for supporting the development of a code of practice for researchers on standardisation: final report, Tardos, G.(editor), European Commission, Directorate-General for Research and Innovation, Publications Office of the European Union, 2022. Accessed on January 23. Retrieved from: https://data.europa.eu/doi/10.2777/567608, pp. 13.

GLOSSARY

CEN/CENELEC deliverables

CEN and CENELEC develop European Standards (EN) and other publications, including Technical Specifications (TS), Technical Reports (TR), Workshop Agreements (CWA), and Guides.

CEN/CENELEC Guide

''a document published by CEN and/or CENELEC giving rules, orientation, advice or recommendations relating to European standardisation". [81]

CEN/CENELEC Technical Report (TR)

a document adopted by CEN and/or CENELEC containing informative material not suitable to be published as an EN or a TS (''a TR may include, for example, data obtained from a survey carried out among the members, data on work in other organizations, or data on the "state-of-the-art" in relation to national standards on a particular subject''). [82]

CEN/CENELEC Technical Specification (TS)

''a document adopted by CEN and/or CENELEC for which there is the future possibility of agreement on an EN, but for which at present:

- the required support for approval as an EN cannot be obtained,
- there is doubt on whether consensus has been achieved,
- the subject matter is still under technical development, or
- there is another reason precluding publication as a European Standard".

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[81] CEN/CENELEC (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[82] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium. Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf

CEN/CENELEC Workshop Agreements (CWA)

''a CEN and/or CENELEC deliverable developed by a Workshop, which reflects an agreement between identified individuals and organisations responsible for its contents". [83]

European Standard (EN)

''a standard adopted by CEN and/or CENELEC and carrying with it an obligation of implementation as an identical national standard and withdrawal of conflicting national standards'' [84]

ETSI Standard (ES)

ETSI deliverable that contains technical requirements. [85]

ETSI Guide (EG)

guides ETSI in general on handling specific technical standardization activities. [86]

ETSI Technical Specification (TS)

a document that contains technical requirements and it is essential for its development that it is available for use fast. [87]

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[83] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium, Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[84] CEN/CENELEC. (2022c). Internal Regulations Part 2, Common Rules For Standardization Work, Brussels – Belgium, Accessed on January 23, 2023. Retrieved from: https://boss.cen.eu/media/BOSS%20CENELEC/ref/ir2_e.pdf
[85] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from: https://www.etsi.org/standards/types-of-standards.
[86] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from: https://www.etsi.org/standards/types-of-standards.
[87] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from: https://www.etsi.org/standards/types-of-standards.

ETSI Technical Report (TR)

used when the document contains explanatory material. [88]

ETSI Special Report (SR)

used for different purposes, including making information publicly available for reference. [89]

ETSI Group Specification (GS)

provides technical requirements, explanatory material, or both. [90]

ETSI Group Report (GR)

an ETSI deliverable containing informative elements.

Flexible Standards Development Process

In February 2021, CEN/CENELEC developed a new process standards development, so-called the "Flexible standards development process". [91] This new process implies that the technical committees are entirely responsible for the timely and effective delivery of standards by enabling them to autonomously plan and organise their work within a specified maximum timeframe. [92] Timely and effective delivery applies on the duration of the Drafting and Formal Vote stages, or the stage after Enquiry if the formal Vote is skipped, of

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[88] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[89] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[90] ETSI. (2022). Types of Standards. Accessed on January 23, 2023. Retrieved from:
https://www.etsi.org/standards/types-of-standards.

[91] CEN/CENELEC. (2021). Flexible standards development process. Accessed on January 23, 2023. Retrieved from:
https://boss.cen.eu/media/BOSS%20CEN/ref/flex_process_operational.pdf

[92] CEN/CENELEC. (2021). Flexible standards development process. Accessed on January 23, 2023. Retrieved from:
https://boss.cen.eu/media/BOSS%20CEN/ref/flex_process_operational.pdf

the EN development process, which previously was fixed on 34 weeks. The Technical Committee decides the duration of the two abovementioned stages according to its needs. The main benefits from the process are TC improvement of the timely delivery of standards and reduced risk of automatic cancellation of the draft due to late delivery.

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CEN/CENELEC. (2022f). Brochure - Catalysing standardisation in R&I projects. Accessed on January 23, 2023. Retrieved from: https://www.standardsplusinnovation.eu/_files/ugd/8442a0_e295c1d118ed457485c58c3a199dc469.pdf

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ISO, & CEN. (2016). Vienna Agreement. Accessed on January 23, 2023. Retrieved from: https://isotc.iso.org/livelink/livelink/fetch/2000/2122/3146825/4229629/4230450/4230458/customview.html?func=ll&objId=4230458&objAction=browse&sort=subtype

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