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EUROCODE 5: FROM MANDATE TO SECOND GENERATION – REVIEW, INSIGHT AND OUTLOOK

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ABSTRACT: The second generation of European timber design standards, known as Eurocode 5, is scheduled for availability in August 2025. This paper provides comprehensive insights into the final state of this new generation including background documents and training material. Additionally, this document dedicates a chapter on lessons learned to review the standardization process and the challenges encountered. Furthermore, the paper offers an outlook on upcoming documents, potential developments and the next generation of design standards. Finally, it informs about the interaction with the ongoing revision of the European Construction Products Regulation (CPR), focusing on its future implications for a harmonized European building market.

KEYWORDS: standardization, Structural Eurocodes, Eurocode 5, timber, design

1 – THE EVOLUTION OF THE EUROPEAN TIMBER DESIGN STANDARDS

The introduction of the first generation of Eurocodes at the beginning of the century marked a significant step towards harmonizing building design standards across Europe. However, there was a strong desire for stability within the European building sector, which led to the decision to postpone the revision of the first generation after the typical five-year period [1]. Subsequently, the European Commission and European Committee for Standardization (CEN) laid the groundwork for a comprehensive overhaul towards a second generation of Eurocodes by issuing Mandate M/515 in 2012 and the corresponding work programme in 2013, respectively [2,3]. The mandate defined the scope of work, expectations and strategy for the new Eurocode generation. The goals for the second generation included (i) adaptation to the current state of the art, (ii) improvement of document usability and (iii) further harmonization between product and design standards [4,5].

To ensure the strategic direction was well-founded and achievable, extensive national and international research efforts were undertaken in the timber sector. These included the German initiative for practice-oriented regulations in construction [6] and European research programmes such as COST Actions FP 1402 [7] and FP 1404 [8]. Findings from these efforts were presented and discussed at the International Network on Timber Engineering Research (INTER) [9]. Additionally, systematic review phases of the first-generation documents within the CEN Member States were conducted from 2014 to 2017. These efforts enabled the European community to specifically discuss and adjust the strategic direction and goals based on concrete content [10]. This comprehensive approach formed the basis for the Eurocode 5 evolution programme. For an summary of potential improvements identified for the first Eurocode 5 generation, see [4,11].

In contrast to the first generation, Project Teams (PTs) were staffed in four phases (1-4 during the years 2015-2021) to make the core revision of the documents available as early as possible. Each Project Team consisted of 5-10 members that were selected through a

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public tender process to form a representative cross-section of recognized experts from standardization, research, business and industry. The revisions obtained in this manner were regularly reviewed by the CEN community and then further developed by CEN/Working Groups (WGs). The Working Groups, in turn, formed an extended circle of experts in which all member states could participate equally and send representatives. Working Groups usually consist of 20 to 60 members, with active participation depending on the area of expertise of the individual participants. For an overview of Project Teams and Working Groups preparing Eurocode 5, see [4,5].

To provide the public with the opportunity to review, test, correct and contribute to the documents developed by these Working Groups, all documents underwent the CEN Formal Enquiry [1]. During this stage, the documents were distributed through national standardization institutes to the general public for commenting. As an outcome of these enquiries at the end of the year 2023, all parts of Eurocode 5 received a total of 7130 comments from national and international experts. Based on this feedback, further development took place within the Working Groups to address the comments and refine the documents. Remarkably, each comment was addressed within an eight-month period. The revision process culminated in the CEN Formal Vote [1] in spring 2025, where the approval of the final documents was sought.

Fig. 1 illustrates respective milestones and key dates in a simplified manner. In addition to the depicted content, the programme included quality assurance processes within CEN to facilitate typesetting, language and translation, as well as digitization.

2 – THE SECOND GENERATION OF EUROCODE 5

2.1 FINAL STATE

This section provides an overview of the final state of the new generation of Eurocode 5, highlighting the significant changes and new content introduced in the second generation compared to the first edition. The second generation of Eurocode 5 is structured into the following documents:

- **EN 1995-1-1: General rules and rules for buildings**
  The primary document, Part 1-1, of the timber design standards, outlines general design rules for timber structures, along with specific design rules for buildings and civil engineering timber works [12]. The main changes compared to the previous edition include updates to encompass all major timber products, such as cross-laminated timber (CLT) and laminated veneer lumber (LVL). For simplification, products with similar behaviour have been grouped for design.
  The document provides enhanced information on achieving durability for the designated design service life. New provisions on holes in beams have been added [13], along with comprehensive guidelines on the reinforcement of timber members in main design situations. Guidance on fatigue verification has been included for general application cases. The organization of connection design has been refined, incorporating carpentry connections and bonded-in rods. Additionally, foundations with timber piles can now be verified according to the document.
  For serviceability limit state design, compression perpendicular to the grain verifications have been extended and the guidance on vibration verification has been improved.

- **EN 1995-1-2: Structural fire design**
  Part 1-2 addresses the design of timber structures that must maintain loadbearing capacity and/or a separating function in the event of fire exposure [14]. The revised European Charring Model now considers different protection phases. The Effective Cross-section Method has been extensively updated for use with all common structural timber members, including cross-laminated timber (CLT), timber frame assemblies and timber-concrete-composite members.
  The verification of the separating function and connections has been improved and extended for fire resistance up to 120 minutes. Advanced design methods for timber structures exposed to physically based design fires are included and bonding performance in case of fire can now be evaluated [15,16].

Figure 1. Schematic process of the Eurocode 5 evolution.

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- **EN 1995-2: Timber bridges**
  The second part of Eurocode 5 provides rules for the design of bridge structures made of timber or other wood-based materials, which may be combined with concrete, steel or other materials. The main changes compared to the previous edition include the categorization of bridges based on their intended service life. Significant information has been added to the clause on durability and related constructive details.
  Design rules for timber-concrete composite bridges are now included. Additionally, there have been revisions to the clause on serviceability limit states, such as damping under dynamic conditions and updates to the clause on fatigue, in line with EN 1995-1-1 (see above) [17,18].

- **EN 1995-3: Execution rules**
  The new third part of Eurocode 5 sets out the minimum requirements for the fabrication, assembly and erection of timber structures designed in accordance with EN 1995. The document serves two primary functions: it bridges the gap between design and execution by transferring the design requirements to the constructor and it offers guidance for the supervision and inspection of timber structures [19,20]. In short, it ensures that what is designed is built.

Earthquake design provisions are not within the scope of Eurocode 5. However, they can be material-specific and relevant for timber structures, as detailed in [21,22] on revised Eurocode 8. The drafting of the timber-related parts of earthquake design was carried out by a joint working group of CEN/TC 250/SC 5 and CEN/TC 250/SC 8 (see [4,5]).

2.2 PROSPECTS

The documents of the second generation will be supplemented by two additional documents currently under preparation:

- **EN 1995-1-3: Rules for timber-concrete composite structures**
  This document will be based on current CEN/TS 19103 [23]. The Technical Specification is further developed to form the third document of part one. It will contain design rules for timber-concrete composite structures including requirements for materials, design parameters, connections and design under both quasi-constant and variable environmental conditions.

- **CEN/TS 1995-1-101: Design assisted by numerical methods**
  A CEN Technical Specification (TS) [1] on numerical methods for the design of timber structures is currently being prepared by CEN/TC 250/SC 5/WG 11. Numerical-assisted design is becoming standard practice in building and will increasingly be applied to nearly all areas of timber design. The document will include information on modelling, types of analysis, verification and validation of models, as well as the evaluation of results [24].

All documents allow for a certain degree of national choice (Nationally Determined Parameters; NDPs). This optional adaptability comprises e.g. safety factors, geographically dependent values for snow, wind, etc., or the status of an informative annex in the country concerned. The national choices are recorded and communicated in the National Annexes (NAs), making them key documents when designing projects within a member state. A National Annex shall not alter or contradict the content of the Eurocode text in any way, but it may include non-contradictory complementary in-

Table 1: Key dates for Eurocode 5#

<table>
<tr><th rowspan="2">Part</th><th colspan="3">Key dates</th></tr>
<tr><th>Date of Availability (DoA)</th><th>Latest Date of national Publication (DoP)*</th><th>Date of Withdrawl of the first Eurocode generation (DoW)</th></tr>
<tr><td>EN 1995-1-1</td><td>01. August 2025</td><td rowspan="4">30. September 2027</td><td rowspan="3">30. March 2028</td></tr>
<tr><td>EN 1995-1-2</td><td>01. August 2025</td></tr>
<tr><td>EN 1995-2</td><td>01. February 2026</td></tr>
<tr><td>EN 1995-3</td><td>01. August 2025</td><td rowspan="3">new documents
(not part of the first Eurocode generation)</td></tr>
<tr><td>EN 1995-1-3</td><td>01. October 2026</td><td rowspan="2">new documents
(not bound to the schedule for the second Eurocode generation)</td></tr>
<tr><td>CEN TS 1995-1-101</td><td>01. October 2026</td></tr>
</table>

Status: March 2025
* The latest date for the publication of all parts of the second generation of Eurocodes includes first amendment documents and National Annexes (NAs).

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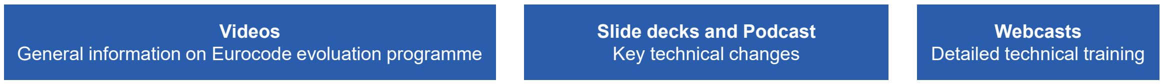

Figure 2. Communication stages for the Eurocodes [26].

formation (NCCI) [25]. Their development and publication rely on the relevant National Standards Body (NSB) and can differ among member states. To ensure continuous development, potential corrections and enhanced applicability, the Working Groups at CEN are already working on the first edition of CEN amendments to the completed documents. An amendment is a supplementary document to an EN circulated to CEN members for national implementation [1]. It is intended to be read in conjunction with the original EN and should not alter its technical provisions by more than 5 %. This first edition of amendments will be available before the withdrawal of the first Eurocode generation.

Table 1 summarizes key dates for all Eurocode 5 documents. The Date of Availability (DoA) refers to the release by CEN for national implementation and publication. The latest date for all Eurocodes to be published nationally (DoP) is 30. September 2027. The first generation of Eurocodes will be withdrawn (DoW) by 30. March 2028.

To prepare the construction sector for the Date of Withdrawal, the European Commission and CEN are organizing information events, video material, podcasts and training sessions (see Fig. 2). The website of the Joint Research Center (JRC; [27]) provides constantly updated and public domain information on this programme. Under [28], introductory videos on the work programme of the Eurocodes and basic information on the general process are available. In May 2023, the Chairpersons of the Eurocode committees presented an overview of the new documents, with presentations for each Eurocode series (about 30 minutes per each Eurocode; available at [29]). Between 03. – 05. June 2025, the JRC organized an online event with more information on the new Eurocode generation. First calculation examples were presented by experts.

All these documents and supplements form the foundation for potential evolutions towards future generations. The future third generation of Eurocodes will place special emphasis on numerical methods, a process that has already begun. Additionally, climate change, the design of timber structures in existing buildings [30] and the reuse of materials and building products will remain pivotal. While initial steps to adapt load assumptions under changing conditions have been made for the second generation, ongoing discussions and developments are vital also for the third generation of Eurocodes. To foster sustainable resource utilization globally, experts worldwide are encouraged to join these currently active discussions in CEN.

3 – STANDARDIZATION CHALLENGES AND LESSONS LEARNED

3.1 GENERAL

This section addresses the challenges and lessons learned from developing the second generation of Eurocode 5. Improving the standardization process and its content is a complex task. Fig. 3 provides a simplified illustration of how draft standards are influenced by various factors beyond the drafter and user. To adequately address the complexity and challenges of modern standardization, a threefold categorization is proposed, comprising the stages of "codification" and "drafting," along with the overarching "management."
The codification stage involves the collection of technical knowledge. During the drafting stage, the collated contents are arranged and the code is formalized. Management formulates and controls objectives. Uncontrollable influencing factors include stakeholder input, external constraints and the experience of the target audience. Preparing the interface with other technical

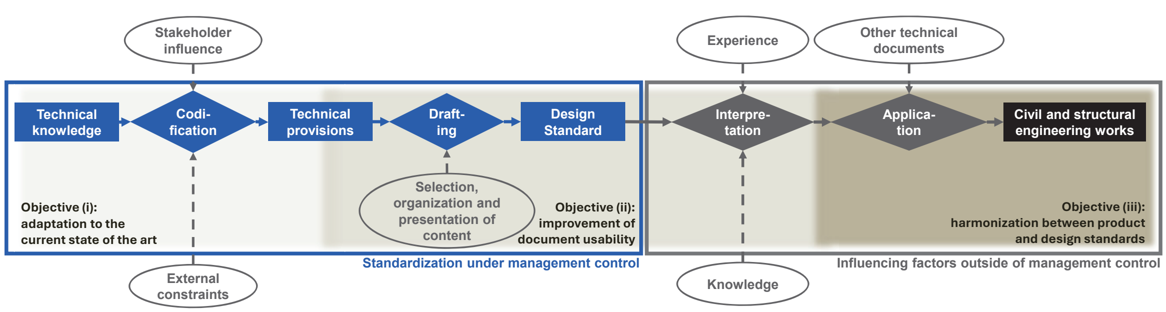

Figure 3. Influences on construction design (reproduced and adjusted from [31]).

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Figure 4. Step-by-step programme for consensus-building [33].

documents, e.g. product specifications, is crucial when preparing design standards, as they shape the transition from theoretical knowledge to real structures.

3.2 CODIFICATION STAGE

To ensure the state-of-the-art in *technical knowledge*, it is essential to continuously involve experts from outside the standardization process [32]. Over time, standardization committees tend to consist of experienced experts who have built trust and rapport with each other. However, for a progressive work process, it is crucial to incorporate the expertise of new/young professionals and engage as many Member States as possible to ensure consensus-building. Encouraging specific experienced experts to involve new colleagues consistently has shown more potential than general calls for new members. Direct personal recruitment usually led to direct participation. It is vital to always include key actors and representatives from the industry in these efforts, as motivation and funding often go hand in hand. The question remains: What are the best strategies for securing funding? Dialogue about the impact and objectives of standardization with the economic sector, specific industries and individual companies is crucial. However, a user-oriented approach always requires involving the users of the Eurocodes, especially the main target group: practical engineers who are well-trained and capable of working independently in their field [4,25].

In parallel, *transparency in responsibility* is a key requirement. When participants hold multiple roles within the process (e.g. Head of National Delegation, Group Leader, Expert, Industry Representative), it is essential to clarify whether they are representing their country or speaking from their own expertise when expressing their standpoints. This transparency helps maintain clarity and trust within the committee even in difficult discussions.

Diversity is inherent in international standardization [32]. Standpoints by experts from diverse national backgrounds, with potentially very different interests, professional experiences and levels of technical knowledge can lead to various interpretations. According to [1], "*The chair shall do everything possible to obtain a unanimous decisions of the Technical Committee. If unanimity on a subject is not obtainable, the chair shall try to seek consensus rather than rely simply on a majority decision.*" This requires a constant dialectical working process in the subcommittee, rather than merely relying on the majority's opinion [10]. A step-by-step programme for consensus-building has been recommended by the European Standardization committee: Clearly identifying the subject of discussion, defining different viewpoints by recognizing the points of agreement and disagreements including potential underlying concerns, further deriving options for progress and finally taking decisions (see Fig. 4).
Subjects in European timber construction that encouraged different point of views included but were not limited to the design of timber-concrete composite members, verification of compression perpendicular to the grain, shear walls, connection design and various aspects of general structural analysis. In such cases, the overall cohesion within the sector and the progress of documents, regardless of national or individual interests was to be prioritized.

Furthermore, standardization involves *managing knowledge across generations*. Stringent documentation of technical rules, discussions and decisions is crucial to minimize repetitive work loops and ensuring forward-oriented workflows. To this end, an agenda with key work items is typically prepared before each standardization meeting and minutes are recorded during each meeting to capture the results of discussions, actions and decisions [1]. These documents are currently stored and accessible in a CEN internal document cloud.
However, digitalization has its drawbacks. Will file formats still be readable in 20 years? What digital hygiene rules are needed to avoid hoarding information messily and maintain focus on essential matters? This issue became particularly evident during the COVID-19 pandemic. The pandemic profoundly impacted the standardization committees' working methods. Digital solutions for meeting management and discussions were implemented and decisions were taken online. This led to an increased number of participants in meetings due to the low-threshold accessibility.
Despite the advantages, the monological audio control of available software results now in less interaction and shorter meetings. The increased number of meetings, the shift in speaking time among involved parties and the video format itself sometimes makes it difficult to convey

complex ideas clearly and discuss them openly. To compensate for the lack of personal exchange when only meeting online, email traffic can increase. However, without body language, written messages might be misunderstood, leading to more emotional discussions when building a difficult consensus.

The technical preparation of meetings has become increasingly important. CEN has introduced rules for digital and hybrid meetings [34]. In online or hybrid meetings, committees often prioritize national representatives when time is limited. These types of meetings are suitable when the content is primarily informative. However, it is crucial to explicitly and consistently encourage questions for clarification and understanding from online participants. Decisions made in an online format should be clearly formulated, distributed and scheduled in advance, as members tend to tune in during relevant sections. To avoid chaotic email threads, more direct exchanges, such as phone calls, are preferable. When discussions are necessary, members should be encouraged to meet face-to-face, despite the higher costs and organizational efforts involved.

Therefore, Working Groups are particularly recommended to meet in person regularly to develop technical content. For typical updates on committee progress, a structured schedule of two meetings per year (e.g. in March and September) may be sufficient. However, discussions must also be facilitated at the committee level. Many experts meet in June, July and August at conferences such as WCTE and INTER [9]. Thus, it is proposed to schedule one fixed face-to-face meeting at the committee level in March.

Managing knowledge across generations relies on trust in the *continuity of best practices* [31]. Drafting standards is an evolution, not a revolution, of design provisions. This evolutionary approach ensures that new standards build upon the solid foundation of existing knowledge while incorporating the latest advancements and insights where necessary.

The new Eurocode 5 will be in total approximately three times longer (900 pages) than the first generation of Eurocode 5. This increase is due to the inclusion of new topics, such as cross laminated timber and laminated veneer lumber, that have emerged from the rapid development of timber construction over the past two decades. Additionally, the new Eurocode 5 needs to address the combination of timber products and commonly used connection types. For example, traditional carpentry connections were rarely used in the market about thirty years ago, but they have been included in the new Eurocode generation due to their renewed importance thanks to CNC-supported fabrication. Similarly, the development of various dowel-type fasteners has been extensive. Simplifying these combinations was a challenge for the new generation of standard drafters. For timber construction, the standardization committee formulated the guideline: "As concise as possible, as comprehensive as necessary." [35] Balancing the need for completeness with conciseness was a constant negotiation. As a foundation for good and complete standards, the following basic questions are formulated in [31]:

- What requirement has to be verified?
- Why is that specific requirement needed (background)?
- How can requirements be verified (specific method)?

The information answering these questions can be implicitly provided in the design provisions. For instance, it is explained in [12] that the influence of moisture shall (requirement) be considered and that the effects of moisture content changes in the timber should (recommendation) be minimized. In general, a structure and its members shall (requirement) be assigned to a service class, defining typical environmental conditions. Furthermore, there are specific values for swelling and shrinking of timber given that may (permission) be used. Dimensional changes and thus potential internal stress shall (requirement) be considered in cross-sectional design. Equations for cross-sectional verification are provided and shall (requirement) be satisfied [12].

These examples illustrate the interdependencies between codification and drafting efforts. The newly implemented legal wording framework by the European standardization committee provides a hierarchical structure to clarify the technical contents. The logical sequence of requirements ("shall"), recommendations ("should") and permissions ("may") combined with background information ("can", "is"), creates a structure that can often avoid the need for cross-references within the text [36]. This structure is a yardstick in standardization, (a) improving clarity and (b) easing navigation through the documents, thus fulfilling the committee's primary goals of enhancing ease of use. Additional goals include (c) limiting the inclusion of alternative application rules where possible and (d) avoiding or eliminating rules with little practical use for construction [25].

Sometimes, methods where computational effort and result accuracy are inversely related can be hierarchically ordered, as it is done in fire design. Engineers may choose based on their knowledge and needs: tabulated data for typecast constructions, simplified design methods and advanced, detailed design methods [16]. Hierarchically ordered application rules should not be confused with

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alternative application rules as mentioned in (c). Alternative methods are always a challenge in standardization when differing methods compete, but no single method prevails. For the sake of committee cohesion, the Eurocode 5 committee has sometimes – as seen in the new compression perpendicular to the grain verification – but not always been able to enforce the reduction of included methods. A future solution could be to survey practitioners on which methods, such as those available for stability design, are preferably used and should be kept in the main code. A good example of the benefits of such a survey is the reduction of methods for the evaluation of fire resistance to one single method, the Effective Cross-section Method [16].

However, omitting information based on majority demands carries the risk of losing important content. The same applies to (d) rules with little practical use for construction. As shown in Fig. 3, the path from technical content to the final structure is also influenced by external documents that provide background or alternative methods. Thanks to the hierarchical wording structure, permissions allow for such external methods. Thus, efficient drafting rules not only ensure the potential for continuous completeness under dynamic technical development but also allow for the removal of outdated content in the codes based on feedback from practice, without losing the option to apply those methods when published elsewhere.

3.3 DRAFTING STAGE

In technically demanding discussions, a significant portion of the working time during the revision of the Eurocodes was spent creating a common language in terms and definitions, symbols and figures. Historically established habits and conventions must be treated with mutual understanding, empathy and caution.

The engineering demand to refine details to the last decimal place reaches its limit, particularly with terms and definitions, or to keep the metaphor, it encounters the reality of irrational numbers. Nevertheless, consistency in terminology should be further increased to improve user-friendliness. Conflicting definitions should be avoided. Improvements in artificial intelligence-based technology can be leveraged to help in this regard. Databases should be established and harmonized across all Eurocodes [31].

The same applies to symbols. Recommendations and harmonizations should be made based on common usage. The beginning of a systematic is given in [25].

Regarding figures, a unified publication guideline should be used. This already exists in CEN for other sectors, but the guidelines are not refined for the conventions of the construction industry. Thus, the European standardization committee for timber construction has relied on best-practice guidelines from the Austrian mirror committee. Access to the software for preparing figures should be provided by CEN, similar to the software for preparing the code itself.

Standardization drafting demands meticulous attention to ensure high-quality documents. Digitalization on “smart” online platforms for authors is already under development [31]. Strong editorial structures in online cloud form are mandatory to handle the number of pages coming from such diverse backgrounds. In the original publication schedule of the Eurocodes, the concrete drafting process was not specified. With typical standards of approximately 50 pages and only one group of experts contributing, this could previously be managed by the committee management alone. This situation had to be remedied and compensated by a few individuals (sub-group leaders, working group leaders, secretariat and chair) for the 900 pages of the new generation. For the future, there is a clear demand to assign a team of experts in drafting to the Working Groups. With the structure of Professional Standardization Support (PSS), CEN offers an anchor point where timber construction could hook in.

Additionally, it would be meaningful to assign the finalization of each part of a Eurocode to a final Project Team also responsible for language coordination between the three official languages of the European Union (English, French, German).

3.4 MANAGEMENT

In the following, improvement discussion concerning management of the development stages is presented.

The organization and process should be reviewed. Project Teams (PTs) were organized based on expertise (e.g. PT 1: Cross laminated timber), since these task forces were addressing prevailing revision needs (see Fig. 1).

The Working Groups (WGs) developing the codes from the proposed documents – thus involved in codifying and drafting – were organized both according to expertise (e.g. WG 1: Cross laminated timber) and general design process-oriented subjects (e.g. WG 10: Basis of design and materials). The code documents themselves are typically structured according to the user’s designing workflow, representing a cross-section of all expertise in each chapter: basis of design, materials, durability, structural analysis, cross-section verification, etc. A potential realignment of WGs based on this workflow is proposed, with subgroups as task forces delving into specific topics such as new materials.

Ideally, then, PT leaders working on such subjects should get sub-group leaders in WGs. Additionally, the work of the Project Teams ended in 2021 (see Fig. 3). To keep experts engaged, it is proposed to maintain their positions in a reduced form (e.g. financing continued PT lead) to ensure the progression of content and background information for future generations.

This approach is proposed on the assumption that a future fragmentation of documents into special topics such as connections is not planned. Such fragmentation has advantages (compactness in presentation) and disadvantages (cross-references and dependencies of documents). If this fragmentation is desired, the committee organisation itself should also be adapted accordingly.

Furthermore, a team of drafting experts should be represented in all codifying teams in the future – whether Project Teams or Working Groups – ideally comprising heterogeneous National Standards Bodies.

For the steering group, the composition of one Chair, two Vice-chairs, a Secretariat and a Technical Assistant of the Chair is recommended as best practice, but alternative suggestions are welcome.

With respect to work programme and timeline (see Fig. 3), the period of six years to develop technical proposals seems quite long considering that standardization should reflect the current, not the future, state of the art. Of course, processes had to be established during this time as well. However, if knowledge gaps are identified in systematic reviews, this information should flow into funding for research and development, but the standardization process should not wait for potential findings. Rather, developing a continuous cycle of updates out of the processes in Fig. 3 would offer a sustainable opportunity to incorporate necessary updates. Unfortunately, the short time between consultation of reviewers and engineering public between 2023 and the finalization of the documents for approval in 2025 has likely resulted in frustration and maybe even in some errors due to the pressure involved.

One of the main strengths of the second-generation process was its clear definition of objectives (see [2,3,25]). The goal for the second generation to (i) adapt to the current state of the art has been successfully achieved for many areas such as CLT and LVL, vibration design, verification of deformations under compression perpendicular to the grain, design of connections with dowel-type fasteners and carpentry connections, fire design, timber concrete-composite structures, timber bridges and execution.

The objective of improving the document usability has largely been achieved. Examples include:

- systematic structuring of the various timber products (with abbreviations) and fasteners,
- harmonization of geometric parameters and their explanation using figures,
- restructuring of sections to follow the typical design process (e.g. general information, design of the unreinforced member, design of the reinforced member),
- collation of content from multiple sources in a single place (e.g. deformation verification) [32].

4 – REGULATORY IMPACT AND MARKET HARMONIZATION

The targeted harmonization between product and design standards has been enhanced. For the first time, Eurocode 5 defines product properties needed for design as listed in Annex M of the new EN 1995-1-1 [12,37]. Information on, e.g. the strength and stiffness properties of timber products relevant for design has been listed there.

However, it cannot yet be conclusively evaluated if the objective has been completely achieved due to the ongoing Technical Acquis process of the Construction Products Regulation (CPR). The main goal of this process is to review the existing technical specifications under the Construction Products Regulation – particularly the harmonized standards (hEN) and European Assessment Documents (EAD) – and to create the conditions for adapting the technical specifications to the future regulatory framework [32].

NOTE: The Construction Products Regulation (CPR) defines the legal framework to produce and place construction products on the European market. Based on harmonized European specifications (standards or approvals) the construction products are CE marked and in an accompanying Declaration of Performance (DoP) the producer states the e.g. strength and stiffness or environmentally relevant properties of the construction product. Harmonized European products standards (hEN) are based on Standardisation Requests given from European Commission to CEN. As a producer is only allowed to declare requested properties, it is essential to ensure complete Standardization Requests as a basis of the new harmonized European construction products specifications.

5 – SUMMARY

The implications of the Structural Eurocodes on the European construction sector attract significant interest from industry professionals, engineers, trade experts and

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the public worldwide [37]. Timber construction's innovative strength is undoubtedly one of its major advantages. However, structural engineers frequently refer to the lack of unified design for standardized products and the existence of numerous manufacturer-specific technical approvals as significant obstacles for timber construction. The experiences garnered from the second generation of Eurocodes over the past decades should be leveraged to enhance the usability of the whole regulatory framework. Clear communication of interfaces between design standards, products and materials – not only new ones, but also re-used ones – lays the foundation for a circular future of timber and the complete construction sector globally.

6 – ACKNOWLEDGEMENT

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