BUSINESS PLAN

CEN/TC 250
Structural Eurocodes

EXECUTIVE SUMMARY

1 BUSINESS ENVIRONMENT OF CEN/TC 250

1.1 Description of the Business Environment

The EN Structural Eurocodes parts produced by CEN/TC 250 provide rules for basis of design, actions on structures, geotechnical design as well as structural design rules for the use of all the major materials i.e. concrete, steel, composite steel and concrete, timber, masonry, and aluminium. The 2nd generation of Eurocodes will include structural glass, fibre polymer composites and tensioned membrane structures. The design rules therefore cover the majority of building and civil engineering structures and geotechnical design, including earthquake resistance. The Eurocodes are equally applicable to whole structures and to individual elements of structures (products).

Standardization in the structural design field across national boundaries enables a greater flow of technical expertise, information and products between countries and leads to greater cooperation and harmonization in the building and civil engineering marketplace. This is particularly relevant in the fields of design of whole structures (consulting engineers) and the design of structural elements (product manufacturers). The Eurocodes support competitiveness and fairness of tendering, thereby contributing to a 'level playing field'.

Political, economic, social, technical, legal, and international factors that directly require some or all of the standardization activities of CEN/TC 250, or significantly influence the way these activities are carried out, include:

- The relationship with the Construction Products Regulation (CPR) particularly Basic Requirement for Construction Works 1: Mechanical resistance and stability and Basic Requirement for Construction Works 2: Safety in case of fire and Basic Requirement for Construction Works 4: Safety in use.

- The importance of Eurocodes is not only its relevance to structural design rules for buildings and civil engineering structures in the 34 CEN Members but also on the international scene.

The work of CEN/TC 250 is closely monitored by CEN Members under ISO to minimize differences in their design practices and to achieve greater harmonization between CEN and ISO Members. Greater ISO/CEN co-operation is foreseen.

1.2 Quantitative Indicators of the Business Environment

The construction industry is hugely significant to the European economy. It is generally accepted that it accounts for some 6-7 % of total European GDP and employs approaching 15 million people.

Analysis reported by the European Commission in impact assessment SEC (2008) 1900 has identified the total annual value of the European construction market as over €1,800 Billion, with design services making up €75 Billion.

Furthermore, the use of the Eurocodes extends outside the European economy. The Eurocodes are currently being implemented by countries in Asia and Africa and are being incorporated into design requirements used in Middle East. Dialogue is ongoing with Russia and interest has been expressed by many other countries around the world.

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

The Eurocodes, prepared by CEN/TC 250, enable design engineers to utilize harmonized design rules for structures and hence assist in eliminating barriers to trade. The benefits and opportunities of adopting the Eurocodes include:

- provide a common understanding regarding the design of structures between owners, operators and users, designers, contractors and manufacturers of construction products;
- facilitate the exchange of construction services between countries;
- facilitate the marketing and use of structural components and kits of parts in Member States;
- a common basis for research and development in the construction sector;
- allow the preparation of common design aids and software;
- increase the competitiveness of the civil engineering firms, contractors, designers and product manufacturers in their world-wide activities.

Furthermore, the intended impacts and associated benefits of the current CEN/TC 250 work programme for the development of the 2nd generation of Eurocodes are summarized in the table below.

Impact	**Benefit**
User confidence in Eurocodes retained as they remain state-of-the-art documents	This is an essential underpinning requirement for the Eurocodes to remain credible standards of the highest reputation, promoting confidence in their use within Europe and adoption elsewhere around the world. Increased user-friendliness in comparison with the 1st generation of

	Eurocodes will reflect best practice in standards development.
Improved efficiency of design processes and reduced barriers to entry through enhanced user friendliness	The design market has an annual worth of €75 Billion. Every 0.1% efficiency saving in design processes would therefore yield a €75 Million annual saving. Enhanced user friendliness will reduce barriers to entry and aid opportunities for small and medium sized enterprises.
Improved harmonization across member states, through e.g. reduction in Nationally Determined Parameters (NDPs) and different design methods	Improved harmonization will reduce barriers to trade of products and services.
Use of new methods and new materials. Enhanced coverage of robustness	This will enable the latest technologies and knowledge to be applied in a way that is acceptable for practitioners, promoting cost effectiveness and sustainability in design, and innovation.
Relevant sustainability consideration incorporated within design requirements	This supports European Community objectives, including those for energy saving and waste accrual.
Climate change consideration embraced within Eurocodes	This will provide increased resilience of long-life infrastructure assets to potential climatic changes. It is very cost effective to address such risks at the design stage rather than through later retrofitting. Such an approach also reduces user disruption and environmental impacts.
Incorporation of initial requirements for assessment and retrofit of existing structures	This supports the effective and sustainable management of existing infrastructure, providing a consistent technical framework across member states as a platform for future R&D and appropriate harmonization, enabling the sustainable life extension of existing assets.

3 PARTICIPATION IN THE CEN/TC

CEN/TC 250 has 11 Subcommittees and 4 Tier One Working Groups, and additionally many subordinate groups to support the work. To participate in the activities of CEN/TC 250 or its subordinate group, please contact the national standards organization in your country.

Participation as observers of recognized European or international organizations is also possible under CEN conditions.

4 OBJECTIVES OF THE CEN/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

4.1 Defined objectives of the CEN/TC

The Eurocodes work programme was initiated by the European Commission and EFTA with the objective of establishing a set of common technical rules for the design of building and civil engineering works to ultimately replace the differing rules in force in the various Member States. This objective remains.

Eurocodes, prepared by CEN/TC 250, enable design engineers to utilize harmonized design rules for structures and hence assist in eliminating barriers to trade.

For the Eurocodes to remain world-class standards, it is essential that they are periodically revised to reflect changes to the state of the art, enhanced user-friendliness, latest innovations, and the needs of the market.

In addition to the development and maintenance of the Eurocodes, CEN/TC 250 supports efforts of the European Commission to promote the use of Eurocodes, including promotion outside the member states of the European Community and EFTA.

4.2 Identified strategies to achieve the CEN/TC defined objectives.

To achieve its objectives, CEN/TC 250 operates 11 Subcommittees and 4 Tier One Working Groups to cover all aspects of structural design with different materials and under different loading and environmental conditions. The Coordination Group under CEN/TC 250 meets on a regular basis to provide technical and programme coordination on various aspects of the Eurocodes. In addition, CEN/TC 250 has created various Ad-Hoc Groups along with 3 Horizontal Groups to provide coordination on Fire, Bridges and Assessment and Retrofitting. It is anticipated that CEN/TC 250 Working Group 6 on Robustness may transition to operating in a horizontal mode during the delivery of the CEN/TC 250 work programme.

CEN/TC 250 recognises the on-going essential relationship between Eurocodes and National Regulations and encourages the participation of regulators in its work.

CEN/TC 250 strongly recognizes its responsibilities to ensure consistency throughout the Eurocodes in both technical and presentational aspects and the essential requirement to communicate and cooperate with other bodies in the construction industry. CEN/TC 250 AHG on interface between Eurocodes and product standards has prepared a list of properties needed for Eurocode design. CEN/TC 250 nominates experts to participate within the CPR Acquis Subgroups and CEN/TC 250 Subcommittees have formed liaisons with relevant product and material CEN TCs. The Coordination Group and specialist Horizontal Groups within CEN/TC 250 are critical in furthering consistency.

Details of the CEN/TC 250 strategy are included in its Policy, guidelines and procedures document N 1250, with copies available on request to the Secretariat. Policy document N 1250 sets out the technical design philosophy and gives guidance on procedures, consultation, administration aspects, programming and drafting. It emphasizes the fundamental need for user-friendliness and use of current state-of-the-art design methods. Guidance documents N 250 and N 600 were prepared during the development of the 1st generation Eurocodes and are still applicable for any amendments to the 1st generation of Eurocodes.

4.3 Environmental aspects

Environmental aspects are addressed within the Eurocodes through the definition of relevant environmental actions and the requirements for achieving durability. Under Mandate M/515 the Project Team prepared a report on how to adapt the Eurocodes to consider the relevant impacts of future climate change and the consideration of sustainability issues. Although CEN/TC 250 does not lead on sustainability matters within CEN, the provisions within the Eurocodes can impact sustainability. Environmental sustainability and climate change considerations have been a significant factor in the 2nd generation of Eurocodes, in particular EN 1991-1-3 Eurocode 1 – Actions on structures – Part 1-3: Snow Loads, EN 1991-1-4 Eurocode 1 – Actions on structures – Part 1-4 Wind Actions and EN 1991-1-5 Eurocode 1 – Actions on structures – Part 1-5: Thermal Actions.

5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC WORK PROGRAMME

The technical input for the work of CEN/TC 250 is carried out by a considerable number of experts in various fields including designers, academics, regulators, product manufacturers and constructors by direct participation, consultation, experimental application, and comment.

The European Commission and EFTA made funds available for the four phases in the execution of Mandate M/515. This funding paid for part of the work carried out by the experts, coordinators, Chairs and Secretariats, with substantial further funding coming from the organizations and institutions that employ the experts for their day-to-day work. Following the conclusion of M/515, CEN/TC 250 Subcommittees and Working Groups finalised documents for CEN enquiry.

Targets can generally be met so long as this support for the people involved continues to be available and organizations continue to support their experts for this work.

A major concern within CEN/TC 250 is the need to sustain a high level of co-operation/liaison with other related CEN TCs to ensure that design requirements are only given in the Structural Eurocodes or, in exceptional circumstances where they are included in other standards, that they are fully compatible and do not conflict with the Eurocodes. In July 2014, CEN BT decision C36/2014 Structural and geotechnical design rules: CEN/TC 250 ‘Structural Eurocodes’ and other CEN/TCs was approved, which reconfirmed that CEN/TC 250 has the overall responsibility for structural and geotechnical design rules for buildings and civil engineering. In response to BT 36/2014, 60 CEN TCs dealing with construction products or related to construction works were contacted by CEN/TC

250 with the objective to strengthen existing liaisons and to establish new ones throughout the development of the 2nd generation of Eurocodes.

In November 2022, in case standards related to structural and geotechnical design are developed by CENELEC, CLC/BT has agreed a similar approach to that of CEN/BT decision C36/2014. Therefore, when CLC TCs identify a need to include rules relating to structural and geotechnical design in standards under their responsibility, they should cooperate with CEN/TC 250 to ensure that there is no overlap or conflict in technical content. Also, to transpose design rules to the relevant Eurocode part where agreed or, as a minimum, eliminate any incompatibilities or ambiguities.

The published suite of Eurocodes incorporates a considerable number of Nationally Determined Parameters (NDPs) allowing countries to decide on safety levels, and to give national geographic and climatic data, in their National Annexes. These NDPs are a vital tool in achieving international consensus and enabling the standards to be implemented within national legal frameworks. All M/515 tasks concerned with existing Eurocode parts included a requirement to reduce the number of NDPs and enable better consensus on values adopted by Countries. In support of this effort, BT has previously supported the availability of National Annexes for CEN/TC 250 Subcommittees and Working Groups through decision BT C105/2013. CEN/TC 250 decision 37/2018 'Eurocodes – Continued use of National Annexes in CEN/TC 250 Documents' was taken during the 54th plenary meeting on the 22 – 23 November 2018. This was ratified through CEN BT decision 20/2019 taken on the 11 April 2019 whereby agreeing that deliverables developed by CEN/TC 250 under Mandate M/515 shall retain the same capabilities for National Annexes as established in the first generation of Eurocodes, with a reminder to CEN/TC 250 that the ultimate goal consists in developing standards in line with the global relevance policy, in that they refer to essential differences (geographic, climate, seismic risks, etc.) rather than national preferences and therefore expects CEN/TC 250 to reduce the number of national determined parameters, in line with M/515.

Inter-relationship with regulatory matters is also an on-going issue, as is the timely and accurate translation of the Eurocodes.