STRATEGIC BUSINESS PLAN
ISO/TC 98

EXECUTIVE SUMMARY

The aim of ISO/TC 98 “Bases for design of structures” is to create a coherent system of International Standards in the field of buildings and civil engineering structures, covering basic design problems. The standards created in the TC 98 contain requirements and recommendations to the process of designing, constructing, operating, maintaining and decommissioning structures, irrespective of the material or type of structure. There are three main areas covered by TC 98 subcommittees: SC1 “Terminology and symbols”, SC2 “Reliability of structures”, SC3 “Loads and other actions on structures”. As necessary a common approach to reliability are prepared in liaison with the relevant technical committees, i.a. for applications to ensure a degree of reliability, as far as possible, consistent with the objectives of the codes preparing committees for each material.

ISO/TC 98 deliverables consider and coordinate the basic reliability requirements concerning the structures as a whole, including structures made of particular materials (steel, stone, concrete, wood, etc.). ISO/TC 98 is generally responsible for design philosophy of majority of
ISO standards relating to structural loading and its reliability and for that reason cooperates with a number of other committees on civil, environmental and mechanical engineering specific works. The system is intended to serve as a basis for regional and national bodies which prepare their standards or codes of practice for particular types of structures in accordance with the technical and economic conditions of use of the structure.

The standards produced by ISO/ TC 98 may serve as reference for other ISO TC’s working in the field of building and civil engineering structures. A number of the ISO/TC 98 standards are implemented directly or indirectly or indirectly in international, national and regional regulations all over the world, particularly a number of European EU directives, concerning buildings and civil engineering structures significantly affected by the work and the priorities of ISO/TC 98 and its subcommittees.

The results of the ISO/TC 98 and its subcommittees activities contribute to a higher quality of structural design, construction, maintenance as well as proper decommissioning. Providing unified bases for structural design allows considerable economies in time, materials, and money taking into account sustainable development provides a common bases for research and progress and, increase the competitiveness of the civil engineering firms and designers in their world-wide activities.

1. INTRODUCTION

1.1 ISO technical committees and business planning

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of International Standards, and to ensure adequate resources for projects throughout their development.

1.2 International standardization and the role of ISO

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade.

Three bodies are responsible for the planning, development and adoption of International Standards: ISO (International Organization for Standardization) is responsible for all sectors excluding Electrotechnical, which is the responsibility of IEC (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of some 169 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the International Standard.

An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties, supported by a public comment phase (the ISO Technical Enquiry). ISO and its Technical Committees are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore not the same status as an International Standard.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its national members. An important distinction is that the IWA is developed by ISO workshops and fora, comprising only participants with direct interest, and so it is not accorded the status of an International Standard.

2. BUSINESS ENVIRONMENT OF THE ISO/TC 98

2.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

ISO/TC 98 is providing a coherent system of International Standards in the field of building and civil engineering works, covering basic problems of reliability understood as safety of structures together with their serviceability and durability:
The main areas of work covered by TC 98 are:

- terminology and symbols used in the field of reliability of structures,

- reliability itself,
- loads and other actions on structures.

The International Standards published by TC 98 do not concern any particular material or type of structure whereas includes the possible influence of modern materials and technologies on the structural reliability, safety and durability.

The standards prepared and published by TC 98 are addressed mainly to other ISO Technical Committees working in the field of building and civil engineering structures. The standards are also useful for various standard-writing bodies at national and regional levels, advanced design offices, research institutes and test laboratories, consulting engineers, forensic experts, government agencies etc.

2.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the ISO/TC 98:

Structure of the market: Customers

- Consumers: national and regional standardization bodies working in the field of buildings and civil engineering structures.
- Governments: governmental and semi-governmental standardization organizations.
- Industries: national standardization organizations, consulting engineers.
- Other customers: research centers involved in the problems of the reliability of structures, forensic experts.

Major factors which may have an impact on the development of the markets: Development of the international exchange and cooperation in the field of building works may enhance the interest of international consulting and construction companies in the standardization. This concerns particularly the developing countries, where new standardization committees are interested in adopting common bases for their standards.

The activity of ISO/ TC 98 supports the construction industry that makes about 30 % of the national economies all over the world.

3. BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC 98

Providing unified bases for structural design, crease construction works and service quality, allows considerable economies in time, materials and money taking into account sustainable development, provides a common bases for research and progress, increase the competitiveness of the civil engineering firms and designers in their world-wide activities. This is well understood by Australia, Canada, Japan, New Zealand and USA where the technical level in the building industry is high but these countries are not involved in the European Committee for Standardization (CEN). Their activity in the TC 98 is gradually increasing.

4. REPRESENTATION AND PARTICIPATION IN THE ISO/TC 98

4.1 Membership

Countries/ISO member bodies that are P and O members of the ISO/TC 98 committee

4.2 Analysis of the participation

There are 20 P-members and 41 O-members between countries participating in ISO/TC 98. Among the P-members there are practically no developing countries. This lack of participation probably results from lack of travel funding and lack of significant major international industries, that may be interested in standardization, whereas a lot of ISO/ TC 98 deliverables are prepared for using by countries of economy in transition. The P-members represents a well-balanced geographical spread that encompasses: North and South America, Africa, Asia, Australia & New Zealand and Europe. There are a few developing countries participating as observers (O-members).

5. OBJECTIVES OF THE ISO/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

5.1 Defined objectives of the ISO/TC 98

The ISO/ TC 98 will elaborate a package of International Standards covering basic problems related to the field of building and civil engineering works, covering basic problems of structural reliability and safety, including its serviceability and durability with disregarding to different materials and different type or type of structure.

5.2 Identified strategies to achieve the ISO/TC's defined objectives

ISO/TC 98 sets standards and the associated deliverables for various industries to ensure quality, safety, and efficiency. Achieving the objectives defined by ISO/TC 98 involves implementing strategies that align with the specific goals of the committee. Here are some identified strategies to achieve ISO/TC's defined objectives:

1. Comprehensive Standards Development:
    - Thoroughly research and develop comprehensive standards that cover all aspects of reliability of structures. Ensure that these standards are clear, precise, and applicable to a wide range of structural engineering scenarios.
2. Uniform Terminology:
    - Maintain consistent terminology throughout the work programme to enhance clarity and communication within ISO/TC 98. Establish and adhere to standardized vocabulary to prevent misunderstandings and ensure precise interpretation and implementation of standards. Regularly review and update terminology guidelines to stay aligned with industry language and evolving practices.
3. Regular Review and Revision:
    - Establish a systematic process for the regular review and revision of standards. This ensures that the standards stay relevant, considering technological advancements, changes in materials, and emerging best practices.
4. Risk-Informed Design:
    - Promote the integration of risk-informed design principles into structural engineering standards. Encourage the use of probabilistic methods and risk assessment tools to enhance the reliability and safety of structures.
5. Incorporate Research Findings & Continuous Monitoring of Industry Trends:
    - Stay connected with the latest research in structural engineering and incorporate relevant findings into the development of standards. This ensures that standards are based on the most up-to-date and evidence-based practices.
    - Establish mechanisms for continuous monitoring of industry trends, technological advancements, and emerging challenges in structural engineering. This allows for proactive adjustments to standards to address evolving needs.

By implementing these strategies, ISO/TC 98 can work towards achieving its defined objectives in developing reliable, robust, and globally recognized standards for the field of structural engineering.

6. FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC 98 WORK PROGRAMME

Several factors can influence the completion and successful implementation of the ISO/TC 98 Work Programme, especially in the context of the "Bases for Reliability of Structures." Here are some key factors to consider:

Resource Availability:

- Adequate financial, human, and technological resources are crucial for the successful completion of the work programme. A lack of resources may lead to delays or compromises in the quality of the standards developed.

International Collaboration:

- The level of collaboration with other national and international standards bodies and organizations can impact the efficiency and comprehensiveness of the work programme. Strong collaboration facilitates the exchange of knowledge and aligns standards with global best practices

By addressing these factors proactively, ISO/TC 98 can enhance the likelihood of successfully completing its Work Programme and ensuring the effective implementation of reliability standards in the field of structural engineering.

7. STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC 98

There are three main areas covered by TC 98 subcommittees:
SC1 “Terminology and symbols”,
SC2 “Reliability of structures”,
SC3 “Loads and other actions on structures”.

ISO/TC 98 was established in 1961 and actually there are 20 P-members and 41 O-members creating the committee. ISO/TC 98 have developed 22 International Standards and about 5 revisions are in preparation at various stages of development.

Priorities of the ISO/TC 98 activities is to provide information and guidance to codes writing bodies, authorities, scientists and practitioners around the world. The ISO technical committees gathers specialists from all continents, giving a wide range of topics covered. The main difference with European regional standardization (CEN) lies in the freedom of choice of the developed ISO standards topics. Any item that arise in the engineering practice can be immediately taken and elaborated by ISO/TC 98 as ISO standards, technical specifications, technical reports etc. All areas of CEN activity are strictly determined and published about each 5 years.

The stakeholders are manifold, including TC’s working in the field of civil engineering works, advanced construction and civil engineering design offices, research institutes and test laboratories, consulting engineers, forensic experts, government agencies, building owners, clients, occupants, investors, etc.

Information on ISO online

The link below is to the TC's page on ISO's website:

ISO TC 98 Bases for design of structures on ISO Online

Click on the tabs and links on this page to find the following information:
- About (Secretariat, Secretary, Chair, Date of creation, Scope, etc.)
- Contact details
- Structure (Subcommittees and working groups)
- Liaisons
- Meetings
- Tools
- Workprogramme (published standards and standards under development)

Reference information

Glossary of terms and abbreviations used in ISO/TC Business Plans

General information on the principles of ISO's technical work