EXECUTIVE SUMMARY

The aim of ISO/TC 98 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 TC98 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 TC98 subcommittees: SC1 “Terminology and symbols”, SC2 “Reliability of structures”, SC3 “Loads and other actions on structures”.

TC98 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.). 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 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 TC98 may serve as reference for other ISO TC’s working in the field of building and civil engineering structures. A number of the ISO/TC98 standards are implemented directly or indirectly in both national and regional regulations all over the world, particularly a number of European EU directives, concerning buildings and civil engineering structures have significantly affected 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, constructing, maintenance as well as proper decommissioning. Providing a unified bases for structural design, allows considerable economies in time, materials, money taking into account sustainable development, provides a common bases for research and progress, increase the competiveness 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 164 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 TC 98 supports the construction industry that makes about 30% of the national economies all over the world.


Providing a unified bases for structural designing increase 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 competiveness 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
4.2 Analysis of the participation

There are 23 P-members and 38 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 TC98 deliverables are prepared for using by countries of economy in transition. The P-members represent a well-balanced geographical spread that encompasses: North 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 TC98 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 but excluding any particular materials or type of structure.

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

In the TC 98 new work items are systematically introduced, their needs are recognized, then the most interested ISO Members Bodies are informed. Finally, after thorough negotiations, the work is initiated in new Working Groups. Every time it is the crucial problem to find an expert who is ready to take up the leading role in a new Working Group and who is supported by secretariat work and in expenses concerned (travels, office work, etc.) by the Standardization Committee from his country.

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

The committee holds a plenary meeting every year at which the subcommittees and active working groups are presented. Certain difficulty in realization of the programme of work of TC 98 is reluctance expressed by the Members Bodies to take up secretariats and convenorships of Working Groups. Since a few years several New Work Items considered as important and potentially ready to be studied and gradually transformed into ISO Standards are not initiated. There are no tools for activating developing countries for the committee works. Last years we observe relatively weaker interest of experts from European countries, eg. Germany, France, Italy, Spain, Norway, into the activity of ISO TC98.
Another difficulty is resulting from lack of activity of some P-members obliged to answer at enquiries and voting.

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

There are three main areas covered by TC98 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 23 P-members and 38 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 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
- Work programme (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