



STRATEGIC BUSINESS PLAN ISO/TC 96

EXECUTIVE SUMMARY

Scope of the activities of ISO/TC 96

Global standardization in the field of cranes and related equipment which suspend loads by means of a load-handling device, particularly in respect of terminology, load rating, testing, safety, general design principles, maintenance, inspection, operation and load lifting attachments.

Relevance of the activities of ISO/TC 96

The crane types that ISO/TC 96 are concerned with are used worldwide in the construction, manufacturing, offshore and transportation industries wherever the safe lifting and moving of loads is required.

ISO/TC 96 has resolved to draft, publish and then regularly review and maintain standards that are globally relevant to achieve acceptable levels of safety; do not impose on manufacturing industry uneconomic/unnecessary demands and do not stifle technological development.

ISO/TC 96 has further resolved to work in harmony with other ISO committees to develop globally relevant standard in accordance with ISO TMB Policies and Principles.

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 96

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 96, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

- a) Techniques in structural and mechanical design, kinematics, dynamics, control, power, global positioning system, monitoring, technologies dealing with accumulation of maintenance data, testing, use, operation, maintenance and safety of mobile, tower, jib, bridge and gantry crane.
- b) Techniques in Mobile Internet and Internet of Things and in the context of Big Data with these techniques, establishing general rules on data security, human-machine interaction, communication protocols and big data analysis for cranes to realize data sharing.
- c) Establishing regulations relative to the determination of the competence of crane structures with regard to probabilistic failure theory, reliability and risk assessment.
- d) Remote and unmanned operation.
- e) Qualifications to set a benchmark to allow countries to ensure that they have a sufficient pool of qualified/experienced operators.
- f) Energy-consumption, pollution and noise improvement considerations and sustainable development goals.
- g) Actively involved in ISO/TC 96 are multi-national and national manufacturers, users, inspecting bodies, institutions of advanced learning, insurance companies and government health and safety organizations, government authorities responsible for workers compensation insurance, industry regulation, advice to politicians and law enforcement agencies.
- h) The majority of the crane types covered by ISO/TC96 and its sub-committees are manufactured for global markets and are used in the construction, manufacturing, offshore, processing and transportation industries wherever the safe lifting and moving of loads is required.
- i) General safety will be foremost in the adjudications of technical amendments followed by harmonization.
- j) A minimum level of technical specification that sufficiently addresses the operational safety requirements in all jurisdictions comprising the TC96.
- k) Regional and National Standards may not be consistent and sometimes require multiple product configurations to be offered. This may also require certification at the local level when required by local jurisdictions.
- l) The primary cost savings involve a reduction in the cost of compliance.
- m) More than 100 countries require compliance with ISO/TC 96's International Standards by suppliers, contractors and other service providers.
- n) Limited adoption of ISO/TC96 standards in national Standards. However there is an increasing tendency towards national Standards adopting the International Standards.

- o) The progressive introduction of new International Standards and regular review and if necessary, the revision of published standards by the Technical Committee will eliminate technical barriers to trade and have a direct and positive effect on general safety by reducing potential hazards.
- p) ISO/TC96 has established firm links with several other ISO Technical Committees.

Liaison Committee to ISO/TC 96 (9)

TC 67 - Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries

TC 98 - Bases for design of structures

TC 101 - Continuous mechanical handling equipment

TC 110/SC 1 - General terminology

TC 111 - Round steel link chains, chain slings, components and accessories

TC 127 - Earth-moving machinery

TC 167 - Steel and aluminum structures

TC 195 - Building construction machinery and equipment

TC 199 - Safety of machinery

Liaison Committee from ISO/TC 96 (14)

TC 31 - Tyres, rims and valves

TC 31/SC 6 - Off-the-road tyres and rims

TC 67 - Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries

TC 98/SC 2 - Reliability of structures

TC 98/SC 3 - Loads, forces and other actions

TC 101 - Continuous mechanical handling equipment

TC 110/SC 4 - Rough-terrain trucks

TC 111 - Round steel link chains, chain slings, components and accessories

TC 127 - Earth-moving machinery

TC 127/SC 4 - Terminology, commercial nomenclature, classification and ratings

TC 145 - Graphical symbols

TC 159/SC 5 - Ergonomics of the physical environment

TC 167 - Steel and aluminium structures

TC 195 - Building construction machinery and equipment

TC 214 - Elevating work platforms

3. BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC 96

A suite of International Crane Standards is being produced as follows:

Terminology

Selection of ropes

Test methods

Use, operation and maintenance

Mobile cranes

Tower cranes

Jib cranes

Bridge and gantry cranes

Design – principles and requirements

With the exception of the terminology standards all of the standards developed by the committee are safety related, that bring with them their attendant benefits when implemented.

The International standards being developed by ISO/TC 96 and its sub-committees:

- a) Address principles and procedures about product design, testing, maintenance, operation of cranes and load lifting attachments;
- b) Provide guidance on qualification requirements for operators;
- c) Provide proper knowledge in using cranes;
- d) Supply precedent to national and regional standards especially in the developing countries which leads to greater acceptance and use.

The standards published by ISO/TC96 provide strategies for hazard recognition and design criteria to mitigate recognized hazards to an acceptable level.

Safety by reducing the risk of harm to persons involved in a lifting operation and/or in the vicinity from serious accidents, and by encouraging the use of properly designed and operated cranes, appropriate for the particular application.

4. REPRESENTATION AND PARTICIPATION IN THE ISO/TC 96

4.1 Membership

[Countries/ISO member bodies that are P and O members of the ISO committee](#)

4.2 *Analysis of the participation*

TC 96 has representation from countries on every inhabited continent. Participation by emerging industrialized countries and regions needs to be encouraged to achieve and maintain global relevance of the ISO/TC 96 Work program.

Use strong consciousness for safety to improve representation and participation in ISO/TC 96, including actions to encourage participating ISO member bodies to better incorporate the concerns of specific stakeholders such as manufacturers, users, inspecting bodies, institutions of advanced learning, insurance companies and government authorities in their positions and delegations.

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

5.1 *Defined objectives of the ISO/TC 96*

The objectives of ISO/TC 96 are:

- a) To consider the needs and the interests of all concerned stakeholders such as manufacturers, users, inspecting bodies, institutions of advanced learning, insurance companies and government authorities
- b) To take into full account of the safety, performance, sustainability, environment protection, energy saving aspects of cranes and accessories.
- c) To draft, publish and then regularly review and maintain standards that are globally relevant to achieve acceptable levels of safety, without imposing on manufacturing industry uneconomic/unnecessary demands or stifling technological development.
- d) To work in harmony with other ISO committees to develop globally relevant standard in accordance with ISO TMB Policies and Principles.

Future objectives: Emerging industrialized countries and regions should be encouraged to participate, achieve and maintain global relevance of the ISO TC 96 work program.

5.2 *Identified strategies to achieve the ISO/TC 96's defined objectives*

- a) Nine sub-committees have been established each being assigned a scope of work which is a logical sub-division of the scope of the parent committee. Scopes of the TC and its SCs have been clearly identified and work items are assigned accordingly.
- b) The Technical Committee progressively introduces new International Standards in response to market demands/needs and those needs identified by the sub-committees including submissions from safety regulators and published accident investigation reports (leading indicators of technical and use problems).
- c) Safety, sustainability, environment protection, energy saving related work items are prioritized, including the definition of the required competences and effective training curriculum to cope with the increasing number of inexperienced operators.
- d) The use of available globally relevant national, regional or other standards, as well as regulations concerning health and labor, is acceptable provided they can comply with the "globally relevant" standard of the ISO/TMB policy. Otherwise, they should not be used as a source document.
- e) An analysis of regional regulatory constraints shall be made beforehand in order to ascertain the feasibility of preparing globally relevant International Standards, and in case of doubt to only deal with common aspects.
- f) Meetings are held in accordance with Clause 4: Meetings, ISO Directives Part 1.
- g) The Technical committee and sub-committees have agreed to work in the English language only during meetings, eliminating the requirement for parallel translation (saving time and resources). Only resolutions are routinely translated, which the Secretary organizes after the meetings.

6. FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC 96 WORK PROGRAMME

- a) It is anticipated that the Technical Committee will act as a supervisor of the sub-committees' work and as a policy setting body for the future. The positions of the Chairman and Secretary of the Technical Committee are currently held by China.
- b) The degree of active participation of member bodies.
- c) The degree of all participants' efforts to enhance mutual understanding.
- d) Regional directives should not be a controlling factor for consideration/implementation of an ISO/TC 96 work project.

7. STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC 96

Information on ISO online

The link below is to the TC 96's page on ISO's website:

[ISO/TC 96 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*](#)