STRATEGIC BUSINESS PLAN
ISO/TC 269

EXECUTIVE SUMMARY

The railway is the most popular public transportation system, which realizes safe, high levels of passenger and freight services and operations and energy efficiency when compared to other modes of transport.

ISO/TC 269 was created in 2012 on the basis of a German/French initiative to provide common international platform which will help to maintain and to further develop railway systems effectively with the scope as follows:
Standardization of all systems, products and services specifically related to the railway sector, including design, manufacture, construction, operation and maintenance of parts and equipment, methods and technology, interfaces between infrastructure and vehicles and the environment, excluding those electrotechnical and electronic products and services for railways which are within the scope of IEC/TC 9 “Electrical Equipment and Systems for Railways”.

The principal market utilising ISO/TC 269 standards are all stakeholders in the railway sector. With expanding international participation and cooperation in all phases of the railway life cycle, it is important for the railway sector, governments, users, public interest groups, etc. to adopt international standards to facilitate the growth and stability of this global market.
The customer base for railway systems, products and services is international. The railway systems need to be made available, operated and maintained by the international customer base. Safety, reliability and technical compatibility and interoperability are fundamental to railway products. This requires that a systematic approach is considered with respect to all aspects of railway products. This also means that products may be the subject of specific mandatory requirements.

Some of the expected qualitative benefits of international standardization include:

- improvement of product quality and processes;
- reduction in the variety of standards to be managed;
- common terminology to allow for communication of complex design requirements;
- common system definitions and test methods;
- facilitation certification;
- coordination between other standardization bodies.

The main objectives of ISO/TC 269 Committee “Railway Applications” are:

- to develop and maintain internationally accepted standards;
- to produce standards cost effectively
- to produce standards which meet the needs of the sector;
- to attract active participation from interested parties;
- to take into account regional standards and specific regulations in order to ensure alignment as well as global relevance;
- to address the impact of emerging technology that may lead to potential standardization work for the railway market.

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 269

2.1 Description of the Business Environment

2.1.1 Market trends

The market covered by the scope of this committee includes the entire spectrum of feasibility, design, construction/manufacture, test and commissioning, operation, maintenance, modification, decommissioning and disposal of systems, their sub-systems and components for general railway application.

The market for railway products (including sub-systems and components) will grow in the next decade and beyond. Many of the market drivers are stimulating this trend growth of international transport of passengers and goods, increase of urbanisation generating transport demand, renewal/upgrading of existing transport systems, building of new lines, and the need to reduce externalities (pollution, road congestion, etc.). This demand is driven by the technical development of efficient and interoperable transportation solutions while the need to maintain a high level of safety remains a key priority.

Interoperability (crossing of borders, opening of markets) can be hindered by different technical regulation and standards impeding the competitiveness with other transport means and modes due to diverse and partly contradicting requirements to be fulfilled by the railway sector increasing the costs for manufacturing, placing into service and operating and maintaining railway products throughout the life cycle.

A major concern for the sector is that standards should not inhibit development and/or application of new technology for the benefit of the railway industry as a whole (i.e. users, operators, designers, etc.). Standards should allow the use of newer technology without being infringed. Therefore the way to follow for drafting standards appears to be a performance/ interface design and not a technology descriptive one.

2.1.2 Standardization trends

There is a trend to describe interfaces on a more general basis like standardization activities for e.g. Ecodesign, Smart Grid and Smart Cities.

ISO should see where there is a need of an attractive action for worldwide standardization and where collaboration with regional bodies may foster the development of a set of international standards by:

- focussing its means preferably on general worldwide items;
- adapting regional standards when possible and if they could be globally relevant;
- creating original international standards when there is a specific need different or complementary to regional ones;
- contributing to relevant system standardization.

2.2 Business Environment

The worldwide market is growing constantly considering the needs of enabling interoperability, removing technical barriers and addressing relevant social, health, safety and environmental concerns (for more information see UNIFE World Rail Market Study).

2.2.1 Description of the market scope

There are different fields of activity:

- design, manufacturing and installation of fixed infrastructure equipment;
- management of infrastructure;

- design and manufacturing of component assemblies and vehicles;
- operation of trains;
- maintenance and other services (e. g. engineering services).

2.2.2 Particularities of the sector

The following points depict the attributes of the railway sector, for which a global standards framework could assist. These strongly influence the structure and evolution of the production organization, the localization of activities and – last but not least – the relation between the stakeholders:

- high technological level;
- high safety level;
- technological complexity (fully integrated system – numerous interfaces);
- high and increasing development costs;
- heavy upfront investments and exceptionally long life cycles;
- high interdependencies with other transport modes (intermodality);
- differences in preconditions and needs according to each region.

2.2.3 Major factors related to suppliers, manufacturers and customers

The market for railways is global, the days of a home grown market have passed.

2.2.4 Outside environmental issues

Several factors may influence the progress of ISO/TC 269:

- language barriers resulting in more time needed for review and study documents;
- different regions of the world use different processes for approving products; international acceptance of product standards require internationally accepted processes;
- technology growth is often faster than the current standard development cycle;
- legal/regulatory issues may necessitate modifications of the content and target dates for specific standardization projects in the work program;
- additional Information and training are needed for the use of E-Committee;
- standardization process may be seen as very slow: Competition with consortia or other standard setting organizations, more efficient but with less demanding processes (transparency, openness, consensus…) may limit the work of the TC.

2.2.5 Examples of other relevant international, regional or national standards or voluntary initiatives

- International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes international standards for all electrical, electronic and related technologies. These serve as a basis for national standardization and as references when drafting international tenders and contracts.
- International Telecommunication Union (ITU) is the United Nations specialized agency for information and communication technologies. Its mission is to connect all the world's people by bringing the benefits of modern communication technologies to people everywhere in an efficient, safe, easy and affordable manner.
- The European Committee for Standardization (CEN) is a business facilitator in Europe, removing trade barriers for European industry and consumers. Its mission is to foster the European economy in global trading, the welfare of European citizens and the environment. Through its services it provides a platform for the development of EN standards and other technical specifications. In the field of railway application, CEN/TC 256 is a major provider of EN standards and technical specifications for railway

applications with the exception of those related to electrotechnology (CENELEC) and telecommunication (ETSI).

- National Standardization Bodies (NSBs): The standardization requirements for individual countries may be addressed by their national standards bodies. These bodies determine if the standardization needs are satisfied through international standards or independently develop.
- International Union of Railways (UIC) is the worldwide international organization of the railway sector. Its mission is to promote rail transport at world level and meet the challenges of mobility and sustainable development by the harmonization and improvement of conditions for railway constructions and operations.

3. BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC 269

3.1 Qualitative benefits

The railway system is the ideal transportation mode for passengers and freight due to the strong safety management processes and its lesser impact on the environment. Its technologies have been developed and refined to fulfil local and regional demands, and lead to the development of railway systems worldwide.

Further benefit to the railway industry can be achieved by incorporating global knowledge in the development of International standards to provide a common understanding for the global rail industry.

These standards can provide knowledge to adopt the most suitable and efficient approach in the new development or the refinement of existing railway systems or parts of them.

In addition to the overall benefits, international standardization in the domain of railway applications will bring a considerable economic benefit to the whole sector due to:

- common terminology to allow for communication of complicated design requirements;
- common system definitions;
- common view of the calculation and acceptance methods;
- common approach to testing and commissioning;
- improvement of product quality;
- facilitation of product and (sub-) system certification;
- coordination of standards development activities.

3.2 Quantitative benefits

Potential impact on costs has been evaluated through various ISO studies (such information is available on the ISO/IEC INVENTORY OF STUDIES ON THE ECONOMIC AND SOCIAL BENEFITS OF STANDARDIZATION) which noted that the economic benefits of using standards for engineering, manufacturing and procurement could be significant. While it was not specific to the railway industry, a correlation can be made that benefits would be generated as well in the use of railway industry standards. Further study would be required to validate this hypothesis. Nevertheless, users generally declare that progress in standards harmonization delivers easier and more reliable processes.

4. REPRESENTATION AND PARTICIPATION IN THE ISO/TC 269

4.1 Membership

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

Expertise designated by ISO/TC 269 member bodies may be provided by:

- manufactures;
- operators;
- infrastructure managers;
- authorities;
- research institutes,
- public and private users;
- worker representative associations.

4.2 Analysis of the participation

Five continents are represented in ISO/TC 269 and its subcommittees: Africa, Asia, Europe, North America and South America. There are more than 20 countries actively participating in ISO/TC 269 activities. The full list of P-members of ISO/TC 269 is available under: Participation. Further interested parties are represented as O-members in ISO/TC 269 from different regions in order to ensure the global relevance.

ISO/TC 269 has liaisons with different international bodies and their participation and contribution is always welcomed:

- IEC/TC 9 “Electrical Equipment and Systems for Railways”;

- Liaison Category A:
  - International Union of Railways (UIC)
  - The European Rail Industry (UNIFE)
  - International Union of Wagon Keepers (UIP)

- Liaison Category B:
  - European Union Agency for Railways (ERA)
  - Organization for Cooperation of Railways (OSJD)

ISO/TC 269 has a close cooperation with CEN/TC 256 “Railway Applications” through the Vienna Agreement.

5. OBJECTIVES OF THE ISO/TC 269 AND STRATEGIES FOR THEIR ACHIEVEMENT

5.1 Defined objectives of the ISO/TC 269

- To develop internationally accepted railway standards for all systems, products and services specifically related to the railway sector, including design, manufacture, construction, operation and maintenance of parts and equipment, methods and technology, interfaces between infrastructure and vehicles and rail specific environmental aspects, excluding those electrotechnical and electronic products and services for railways which are within the scope of IEC/TC 9 “Electrical Equipment and Systems for Railways” in order to facilitate the further growth of the rail industry at a global level.
- To draft those standards by adapting existing regional standards which are already applied on an international level in order to minimize the workload. As an example, the already existing set of EN standards and other national standards could serve as a good basis for future work as many of them are already applied on an international level. Even in this case, global relevance is always taken into account which includes any cost impact.
- To ensure that the future standards are compatible with specific regional regulation by defining a cooperation framework (migration strategy) between the relevant regional or national standardization organizations and ISO. From the global point of view relevant regional or national organizations are those from § 4 having signed a general cooperation agreement with ISO, such as the Vienna Agreement between CEN and ISO.
- Assure these standards are cost effective and correspond to users’ and market needs and that they support the technical projects of the sector.
- Standards should not inhibit development and/or application of new technology for the benefit of the railway industry as a whole (i.e. users, operators, designers, etc.). Therefore, as a minimum, standards should allow the use of newer technology without being infringed so that the way to follow for drafting standards appears to be a performance/interface design and not a technology descriptive one.

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

5.2.1 Main criteria for determining priorities of the TC 269 committee

The main criteria in the work of the committee in determining its priorities and how they are relate to trends in the business, technological, environmental and social environment addressed by the work of the ISO committee and the following ones:

- to lead to cost savings through implementation of ISO/TC 269 standards;
- to remove technical barriers to trade and open markets in various regions of the world;
- to address relevant railway operating safety concerns;
- to address relevant social, health and safety and environmental concerns;
- to support the endorsement and harmonization of national and regional standards;
- to support the implementation of other international standards;
- to be cited as normative references in other international standards;
- to enable interoperability among technical systems;
- to enable interoperability between railway products (including sub-systems and components) and the compatibility of design and operating information associated with such products.

ISO/TC 269 is working to achieve the benefits through the development of relevant international railway standards. The focus of the TC will be the emerging standardization needs in the following areas:

- standards applicable to the strategic development of railways;
- standards that support the processes to ensure compatibility across rail networks;
- standards that support the interoperability;
- standards that facilitate product development for infrastructure and rolling stock;
- standards that support railway operations, maintenance, training and support services.

5.2.2 Establishment of programs of work

- identify market needs (e.g. elimination of trade barriers, facilitation of certification/acceptance) and understand where those needs are already being met by other standardization bodies, including regional ones;
- identify what standards exist elsewhere and could be adapted to develop international standards;
- identify specific regional regulations that should be taken into account for the development of the international standards in order to avoid inconsistency or incompatibility;
- identify needs not adequately served by existing standards developing organizations;
- encourage collaborative work with other TCs where relevant. A major feature of the railway sector is its specificity. Some topics are similar to those covered in other industrial fields but the requirements have to take into account the overall constrains of the systematic nature of railway;
- identify activities currently assigned to other transversal TCs that might be re-allocated to ISO/TC 269.

5.2.3 Structure ISO/TC 269 in an efficient way

- Chairman´s Advisory Group (CAG) for strategic and operational aspects, to anticipate the needs and to investigate the effective and practical mid-term strategy;
- ISO/TC 269, its subcommittees and working groups to allocate topics and the related relevant expertise, so that the management of ISO/TC 269 can be focused on the identified and agreed priorities.
- Cooperation with national, regional or international organizations to coordinate procedures for the development, preparation, publishing and maintenance of standards.

6. FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC 269 WORK PROGRAMME

The experience and evidence gained at regional level is that the topics to be dealt with at ISO are of high complexity and of a diverse nature, such that a single group of experts will not be able to address the whole scope of ISO/TC 269 activities.
Thus, the structure of the ISO/TC 269 is organized in such a way that the expertise needed to achieve the objectives can be sourced taking into account the complexity of the railways as a system. In particular, subcommittees ensure the management of the expertise in order that the TC can focus on system integration and high level identified priorities.

7. STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC 269

Information on ISO online

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

ISO/TC 269 on ISO Online

Click on the tabs and links on this page to find the following information:

- About Secretariat, Committee Manager, 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