



BUSINESS PLAN

CEN/TC 256

RAILWAY APPLICATIONS

EXECUTIVE SUMMARY

This Business Plan of CEN/TC 256 Railway Applications describes the scope and planned future aims and workload for the committee. It sets into context the business environment that CEN/TC 256 works within; the key benefits the Standards produced by CEN/TC 256 offer and its workload priorities. The objectives of CEN/TC 256 and the strategies for their achievement are included together with factors affecting the priorities, the implementation and completion of the CEN/TC 256 work programme.

Business Environment

CEN/TC 256 is responsible for the development of European Standards for all applications (except electrical and electronic subjects), in the field of railways, including urban transport, specifically intended for vehicles and fixed installations of the European Union. The total size of this market sector is over 70 billion Euros. The Industry comprises rail users, public and private rail transport operators (passenger and freight), Infrastructure owners, Manufacturers and maintainers, Service providers (e.g. consultants, financiers etc.), Public authorities (National and European), Leasing Companies, Regulatory Bodies, and Trade associations.

There are over 60 major manufacturers, infrastructure owners, and operators who are covered by the work of CEN/TC 256. The Industry provides employment of over 712,000 people in 800 enterprises ("EU transport in figures – statistical pocketbook 2012"), figures which are likely to increase if the current candidate member states join the EU.

The industry has the best safety record of all public transportation modes, and the environmental impact of its products and services is also very low. The challenge facing the Industry is to maintain these social benefits whilst reducing costs to be competitive in the transport sector. The aim of the EU for the Rail transportation sector is the achievement of free and unrestricted transfer of goods, services and passengers across national frontiers within the EU. To date, CEN/TC 256 has produced some 200 standards, of which 133 are a result of the EU Interoperability Directives. A further workload is programmed resulting from the Urban Rail Mandate M 486, which has nearly 50 proposed work items.

Benefits

The Standards produced by CEN/TC 256 offer the following:

- Achievement of the need for the Interoperability for people, goods and services across all internal national borders within the EU.
- Continued safety of operations and hence safety of people and employees within this transport mode.
- Reduction in the range of products and services based upon single harmonized standards applicable across all 28 member states. This includes related maintenance costs.
- Clearer specification to the supply industry of the requirements thus leading to better products in terms of costs, reliability, fitness for purpose etc.
- Facilitation of export of products outside Europe as CEN/TC 256 Standards are used for procurement by numerous authorities in many parts of the world

Priorities

1. To deliver the standards required to achieve the objective of Directive 2008/57/EC.
2. To proactively work with ISO/TC 269 to produce railway ISO standards.
3. To deliver the standards described in the Urban Rail programme.
4. To produce high quality standards efficiently that meet the sector needs whilst respecting all EC and CEN requirements.

1 BUSINESS ENVIRONMENT OF THE CEN/TC 256

1.1 Description of the Business Environment

The rail industry is a mature one, having existed for nearly two centuries, and therefore the technology in the scope of this TC is generally well understood and widely implemented. Whilst there is continuing need to improve system performance by technical improvements (capacity, cost, speed, environmental impact, reliability, availability, safety, etc.), the basic technology is not new. The exceptions to this are for such areas as new materials and joining methods, aerodynamics, and new possibilities from vastly improved data capture and processing.

Initial work by CEN/TC 256 after its formation in the early 1990's was from the Public Procurement Directive (93/38/EEC), which was mainly aimed at eliminating trade barriers in public procurement of products and services within the EC. The mandate M 024 resulted in 71 standards.

However the major change which has affected the European rail business since the mid-1990s has been the liberalisation and privatisation of the whole market. This has several inputs to the standardisation needs of the sector:

- Moving from the commercially restrictive national rail company standards to a common European technical framework
- Achieving consensus for a set of standards across many rail companies each with their own standards regimes
- Many of the rail company rules and regulations did not exist in a format suitable for harmonised standards
- Producers and suppliers desire to provide cost-effective products and services without the need to customise them for each national customer
- To improve the market position of rail versus other transport modes
- To improve the environmental advantage of rail as a transport system
- To aid European competitiveness in the global marketplace

The EU has introduced legislation to initiate these changes, and the most obvious impact on the work of CEN/TC 256 has been through the Interoperability Directives (initially for high speed rail, then widened to conventional rail), currently encapsulated in Directive 2008/57/EC. This Directive mandates the European Rail Agency (ERA) to write Technical Specifications of Interoperability (TSI's) which contain all the essential requirements for Interoperability on a specified European rail network. CEN/TC 256 has a mandate (M 483) to develop standards to support the requirements of this directive. At the time of writing of this business plan, there were 133 published standards and 84 active work items related to Interoperability.

The Directive has been transposed into the legal systems of member states and the referred TSI's therefore have the force of law. Some ENs are directly referenced in the TSIs, giving them legal status, and other harmonised standards allow a presumption of conformity to the TSI and hence the Directive.

These changes have been recently further accelerated by EU policy to:

- Achieve an open European rail system by using legislative and standards levers. This is demonstrated through policies such as the Single European Rail Area (SERA), which is part of the 4th Railway Package. This involves the removal of administrative, technical or regulatory obstacles holding back the rail sector both in terms of market opening but also in terms of interoperability (that leads to over-customisation of products).
- Manage a coordinated approach to European research and innovation (R&I) in the rail sector under Horizon 2020 and Shift2Rail. This will change the current scattered research and innovation leading to faster market uptake of innovative solutions and thus deliver the improvements in capacity, reliability and life-cycle costs urgently needed in the rail sector. TC256 is currently liaising with the EC to input into this process.
- Introduce Urban Rail standards, requested by the EC under mandate (M 486).

Various horizontal directives also have an impact on our work, such as those for environmental noise, Eco design and the environment.

1.2 The scope of CEN/TC256

The scope of CEN, and hence TC256, is wider than the EU, as the CEN membership (currently 33) includes EFTA (e.g. Switzerland and Norway), and accession countries. CEN also has partnership with various other national bodies (Kazakhstan, Mongolia etc.). Therefore although the standards produced by TC256 are voluntary (as with all CEN standards), the existence of a legislative structure for railways which includes TSIs as well as Directives leads to the following position within the EU:

- EN is directly referenced in a TSI – the EN becomes legally binding.
- EN is harmonised with a Directive – compliance with the EN gives a presumption of conformity with the Directive.
- EN not harmonised – an “ordinary” voluntary EN.

In addition the standards produced by TC256 may be:

- enforced via a commercial contract
- applied by national legislation (i.e. in CEN partner countries)

The railway is a tightly integrated system, with many critical interfaces between the vehicles and infrastructure (e.g. wheel/rail, vehicle to structures). In order to ensure good interaction of all system components, considerable technical regulations are necessary, more than is the case for other means of transport.

The development of the TSI's ensures that these system considerations are evaluated before the production of the requirements. Economic considerations within different member states means that total harmonisation of the Rail Network within the EU is not possible at present (except on designated routes). Examples of this are different track gauge, and structure gauge. The development of the TSI's and the related EN standards however, ensures that any new additions and/or major renewal or upgrade of the network will allow harmonisation to be extended throughout the EU in the long term.

The splitting of responsibility for Infrastructure and Operations has created an additional interface which leads to the need for further technical considerations that have to be managed by standardisation activities. Many member states carry out the maintenance of the system components using privatised organisations rather than national railway organisations, and this has resulted in further technical compatibility requirements within standardisation work.

The railways have demonstrated that they are a safe and environmentally friendly means of transport. Railway standardization supports the safety aspects of the products and the system, and explicitly deals with the safety of passengers, the general public and goods, as well as the health and safety of people working for the railways. Environmental issues are similarly covered.

The main competitor to the Industry is the road transport sector which has a poorer safety and environmental impact record. It is however dominated by the popular motor car, and has invested heavily to improve both safety and emissions. The low-cost airlines also compete in the medium-distance passenger market.

Railway products and services are part of a worldwide trading environment. European companies contribute significantly to this trade, and export of rail products from the EU is very significant. The importance of European standards and conformity of products to these standards is therefore very important to the economic and business environment.

It is also important to understand that these EN Standards are being used more and more in the procurement of products and processes by far-eastern and developing countries. Therefore although the list of stakeholders given below is Eurocentric, the TC always considers the global market for our standards.

1.3 CEN TC256 Stakeholders

The Stakeholders in the work of this TC are many and varied, including:

- CER - The Community of European Railway and Infrastructure Companies brings together 81 railway undertakings, infrastructure companies and vehicle leasing companies
- European Commission
- European Disability Forum (EDF)
- EPTTOLA (European Passenger Train and Traction Operating Lessors Association)
- ERA (European Rail Agency) – An agency of the EU, it was set up to help create an integrated railway area by reinforcing safety and interoperability.
- ERFA (European Rail Freight Association)
- EIM (European Rail Infrastructure Managers) - provides a single voice to represent its members (independent infrastructure managers) to the relevant European institutions and sector stakeholders.
- European Trade Union Confederation (ETUC)
- National Safety Authorities
- Notified Bodies.
- SMEs in the rail industry,
- UIC (International Union of Railways) – an international organisation of the railway sector.
- UIP (International Union of Private Wagons)
- UIRR (International Union for Road-Rail Combined Transport)
- UITP (International Association of Public Transport) - worldwide network to bring together all public transport stakeholders and all sustainable transport modes
- UNIFE (Association of the European Rail Industry) – a trade association, it directly represents European companies responsible for the design, manufacture, maintenance and refurbishment of rail transport systems, subsystems and related equipment. UNIFE represents 82 leading large and medium-sized rail supply companies and a further one thousand suppliers of railway equipment through 16 national rail industry associations. UNIFE members make up 80% market share in Europe and 50% worldwide.

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[The term stakeholder is used here as defined in ISO 31000 (2009): A "stakeholder" is a person or an organization that can affect or be affected by a decision or an activity. Stakeholders also include those who have the perception that a decision or an activity can affect them. ISO 31000 (2009) distinguishes between external and internal stakeholders.]

Whilst the above are our stakeholders, the following are our customers, i.e. those that use (and purchase) the standards documents we produce:

- Railway Undertakings together with owners/keepers and maintainers.
- Infrastructure Managers. This includes infrastructure contractors.
- The railway supply industry.
- Approvals and assessment bodies. (E.g. National Safety Authorities, Notified Bodies)

Note: - the National Standards Bodies (NSBs) are members of CEN, and have the responsibility for developing European consensus; that the EC and ERA are not considered customers, in that they do not use the standards, although obviously they influence the standards and are therefore important stakeholders.

Over the last 3 years the average number of National Standardisation Bodies represented at the TC256 Plenary meetings (held twice per year) has been 9½.

1.4 Quantitative Indicators of the Business Environment

The following list of indicators describes the business environment in order to provide adequate information to support actions of the CEN/TC 256:

- The annual European rail industry turnover is Euro 73 billion. (EC 4th Rail Package)
- The European Rail Industry is at the forefront of innovation in terms of products and services. The growth in the Industry is also significant and it will continue to compete with road/air transport over short to medium distances in the passenger market and over long distances in freight markets.
- There are about 60 major manufacturers, infrastructure owners and operators in the mechanical part of the Rail sector which is covered by the work of CEN/TC 256. More importantly, there are hundreds of smaller suppliers and other SME's employing a similar number of people who provide goods and services to the larger players in the Industry. In total over 613,000 workers are employed in the EU ("EU transport in figures – statistical pocketbook 2014").
- Long-distance passenger traffic will increase by an estimated 21 per cent (2.2 per cent annually) to reach over 1.36 billion by 2020, 238 million up compared to 2011 figures (Amadeus, The Rail Journey to 2020).
- The rail transport sector boasts the best safety record in terms of passengers and freight carried nationally and throughout the EU. The use of European Standards contributes significantly to this outstanding record.
- The expansion of the EU offers a further role for published standards and those under preparation in terms of harmonization of this extended market. The new members will have instant access to (at the time of writing this plan) some 200 published standards, and an opportunity of participating in the creation of over 80 Standards which are currently in the programme of CEN/TC 256.

- The Directives 2008/57/EC has mandated the creation of Technical Specifications for Interoperability (TSI's) on specified rail networks within Europe. Where these TSI's directly call up European standards produced by CEN/TC 256 it makes these standards legally binding. In addition, harmonised standards are referenced in the TSI Application Guide where reference to such standards gives a presumption of conformity to the TSI and hence the law.

2 BENEFITS EXPECTED FROM THE WORK OF CEN/TC 256

2.1 Support for Interoperability Directives and TSIs

- As at the time of publication of this plan, 133 harmonised standards have been produced in support of EC Interoperability Directives (96/48/EC, 2001/16/EC, and 2008/57/EC). Around 80 more are in preparation.
- The European Rail Agency has made over 30 direct requests to CEN/TC 256 for standards to support TSIs.
- EC mandates M 024 and M 483 are current with CEN/TC 256.
- A programme of work has been approved by the EC for Urban Rail standards resulting from M 486.

2.2 Removal of technical trade barriers

- The standards produced by CEN/TC 256 covers many products and services of the rail industry, thus bringing more open markets to areas such as:
 - Products (e.g. wheelsets, sleepers, rails)
 - Testing (e.g. vehicle ride safety, windscreens, bearings, rail fasteners)

2.3 Harmonisation of national standards

Many national standards have been withdrawn as a consequence of publication of CEN/TC 256 standards.

2.4 Bridging from Research and Innovation to market

Standards areas that have or are being addressed include new challenges resulting from high-speed rail (aerodynamic stability, ballast pickup, aerodynamic noise), dealing with heavier axleloads, and new materials and joining techniques.

3 PARTICIPATION IN CEN/TC 256

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions. Participation in the activities of this CEN/TC is through contact with the national standards organization in the country seeking participation.

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

4.1 Defined objectives of CEN/TC 256

CEN/TC256 will produce European standards as a result of :

- stakeholder proposals; European Commission mandates;
- requests by the European Railway Agency in support of the TSIs;
- European Research Projects;
- reviews of existing CEN/TC 256 standards;
- adoption of ISO standards in the framework of the migration strategy

whilst always being focused on the needs of the end-user.

The objective of CEN/TC 256 is that our standards will:

- allow technical acceptance and harmonisation of rail products and services with no need for further national homologation;;
- develop the optimum solution for the railway as a whole system. (This may not be the optimum solution for any one sector of the railway, because, the cost and benefits of a project/process may fall in different places within the railway. The resolution of balancing such economic aspects is outside of the scope of TC256);
- allow options for products such that the most economic option may be chosen by the end user. The standard shall not require the highest specification option unless justified.
- Develop standards appropriate in cost and technical solutions to the functional requirements of the various rail systems, in particular to systems with lower speeds and load capacity.

4.2 Identified strategies to achieve CEN/TC 256's defined objectives

To achieve its objectives, CEN/TC 256 will:

- Make clear the requirements of all applications (except electrical and electronic subjects), in the field of railways to achieve a common European market for railway materials and systems.
- Show the method by which the product or service can achieve conformance with the requirements including those contained in all Interoperability TSI's.
- Demonstrate to third parties how compliance with the requirements has been achieved.

CEN/TC 256 operates in liaison with many other parties to achieve its objectives:

- With its stakeholders, many of whom are in CEN partnership arrangements. Several stakeholders are regular attendees at the twice-yearly CEN/TC 256 plenary meetings.
- With CENELEC TC9X, the sister organisation covering electrical aspects of railways. Several work items are progressed under the standard cooperation modes between CEN and CENELEC.
- CEN/TC 256 chairman is a member of the Sector Forum Rail (previously JPC-Rail), a forum of CEN, CENELEC and ETSI involving railway stakeholder organizations, whose

role is to provide coordination in the railway sector and support the development of a consistent set of European Standards for railway applications

- ISO have recently created a railway committee, ISO TC269. CEN/TC 256 has several of its members who also sit on the ISO TC, and DIN-FSF provides the secretariat of both. The liaison aims at ensuring proper co-ordination between the TCs, in the framework of a migration strategy.
- Regular meetings have been held with the Japanese railway standards organisation JISC, and input has been given to CEN in preparation of the recent Memorandum with ROSSTANDARDS.
- Liaison with other CEN TCs for specific items. These have included recently:
 - wheelchairs (TC293)
 - conformity (TC1)
 - Eurocodes (TC250).
- Close links with European research are fostered. CEN/TC 256 chairman is a member of the ERA-chaired Advisory Council which seeks to improve the linkage from research projects into standards. Projects covered include TrioTrain, Acoutrain, and ECUC. This is in support of the approach proposed under SERA (Single European Rail Area) where CEN promotes the key role of standards as bridge from Research & Innovation to markets.

CEN/TC 256 will also incorporate the strategy set out in EC Horizon 2020, where analysis has shown that focusing work in the areas listed below is particularly relevant to the achievement of internal market objectives:

- Rolling stock: New generation of light, energy-efficient and cost-efficient high-capacity rolling-stock, generating increased revenue potential for operators, including new materials, new approaches to vehicle body, traction, on-board management and control and passenger environment.
- The design, production processes and certification methods and tools required to industrialise these new vehicle concepts (streamlining railway products to avoid excessive customisation).
- Infrastructure: new infrastructure concepts, including smart infrastructure systems and components, e.g. for purposes of infrastructure condition monitoring and predictive maintenance.

CEN/TC 256 is seeking participation in the "Regulation & Standardisation Council" within the structure of Shift2Rail.

CEN/TC 256 always seeks to encourage more participation of new member states, and one way of doing this has been to hold plenary sessions in these countries.

To allow efficient and resourced operation of CEN/TC 256, the following are being actively trialled:

- Training workshops and documents to assist convenors and working group members to understand the standardisation process, and avoid some of the common errors that technical experts are prone to when new to standardisation.
- Use of requirements management techniques to give clearer standards

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Specific CEN/TC 256 objectives are:

Short-term (within 2 years)

- Maintain and develop convenor training and support.
- Efficiency in translation area – provide translated technical terms and definitions to translators. .
- Introduce a review stage for drafts during their development before Enquiry.
- Introduce KPIs to help the TC manage its deliverables
- Set priorities for each work item (high, medium, low).
- Introduce a standardised template for scopes to aid convenors and reduce inefficiency.
- Provide the convenor with an induction package with each new Work Item.
- PRM issued
- Finalise the wheelset product standards
- Close TSI open points related to structures
- Complete ride and stability work of WG10.

Medium-term (within 5 years)

- Reduce production time for standards to 2 years
- Clear definition of requirements in each standard.
- Review the linkage with the relevant (Railway) Directives and the related TSIs, including the role of Annex ZA .
- Have a comprehensive accepted fire standard
- Complete the standards package for rail-bound maintenance machines.
- Develop aerodynamic pass/fail criteria to close open points.
- Develop online terms and definition, equivalent to IEC.
- Complete a top-down review of the TC 256 suite to identify any gaps.
- Further develop the working relationship with CCMC to enable to enable better awareness of wider initiatives and actions within the EC sphere (other TC activity, horizontal legislation).

Long-term (within 10 years)

- Maintenance standards

Improved system standards

4.3 Environmental aspects

The European railway has a good record for environmental impact, as demonstrated by the improvement in greenhouse gas output shown below:

Year	Million tonnes CO2 equivalent
1990	14.4
1995	10.5
2000	9.6
2005	8.1
2009	7.5

Source: European Environment Agency (EEA), August 2011

However continuous improvements must be sought and many environmental aspects are being addressed in CEN/TC 256 standards. Areas covered include:

Noise – both within trains and external noise, and defining trackside noise barriers.

Aerodynamics

Fire and toxicity

Efficiency of air conditioning

Diesel engine emissions are outside of the scope of CEN/TC 256.

5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC 256 WORK PROGRAMME

CEN/TC 256 operates in a complex environment with many players from fields such as politics, legislation, rail operations and industry. Its workforce is predominantly voluntary and it has defined production timescales (as with all CEN TCs).

This requires the management of the risks which can compromise the relevance, quality, timeliness and cost impact of our standards.

The key current risks are seen as:

- Ensuring the competence of expert involved in Working Groups with regard to basic standardization requirements.
- Managing the translation of documents. Particular risks losing good draft technical translations by native speakers in the process, and peak workloads from multi-part standards.
- Efficient liaison with research programmes. Availability of CEN consultants.

Ensuring industry buy-in to the programme, and thus provision of experts.