



IEC/TC OR SC: <b>IEC/TC 9</b>	SECRETARIAT: <b>FRANCE</b>	DATE: <b>2016-02</b>
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Please ensure this form is annexed to the Report to the Standardization Management Board if it has been prepared during a meeting, or sent to the Central Office promptly after its contents have been agreed by the committee.

**A. STATE TITLE AND SCOPE OF TC**

Are there any new or emerging trends in technology that will impact the scope and work activities of the TC? Please describe briefly.

Do you need to update your scope to reflect new and emerging technologies? If yes, will these changes impact another TC's scope or work activities?

If yes, describe how these will impact another TC(s) and list the TC(s) it would impact

**No change**

**Background**

Electrical equipment and systems for railways

TC9 was established on the 24<sup>th</sup> April 1924 with the former title "Electric traction equipment"

Now it has the task to prepare international standards for the railway field which includes rolling stock, fixed installations, management systems (including communication, signalling and processing systems) for railway operation, their interfaces and their ecological environment.

These standards cover railway networks, metropolitan transport networks (including metros, tramways, trolleybuses and fully automated transport systems) and magnetic levitated transport systems

These standards relate to systems, components and software and they will deal with electrical, electronic and mechanical aspects, the latter being limited to items depending on electrical factors.

These standards deal with electromechanical and electronic aspects of power components as well as with electronic hardware and software components.

These tasks are undertaken in close liaison with CENELEC/TC9X taking into account the needs expressed by users (as UITP).

A major feature of the railway field is its specificity: even if some work items are similar to those covered in other industrial fields the relevant answers have to take into account the strain of coherence of the railway system as well as the interface specification need.

TC9 includes now 27 P-members : Austria, Belgium, Canada, China, Czech Republic, Denmark, Egypt, Finland, France, Germany, Italy, Japan, Korea (Democratic People's Republic of), Korea ( Republic of), Netherlands, Norway, Portugal, Romania, Russian Federation, Serbia, Singapore, South Africa Spain, Sweden, Switzerland, United Kingdom, United States of America and 13 observers: Belarus, Brazil, Bulgaria, Croatia, Greece, Hungary, India, Indonesia, New Zealand, Poland, Slovakia, Slovenia and Ukraine.

To improve the efficiency of standards development, TC 9 standards aim at global common

performance in principle according to the ISO/IEC Directives, Part 2, 4.2.

The following topics have been currently identified and they are limited to electrical equipment and systems relevant to TC9 scope.

#### Environmental aspects

- EMF
- EMC
- Acoustics
- Stray currents

#### Safety aspects

- Electrical safety
- Protection against fire
- Safety hazards in long tunnels
- Passenger safety (including passenger alarm systems, and communication between the operator and passengers)
- Event recorder (e.g. "Black box" or automatic system surveillance )

*NOTE: all the safety aspects covered above are to be developed respecting safety regulations that may exist elsewhere.*

#### Functional aspects

- Demonstrating of functioning of one or several systems or subsystems
- Methods for demonstrating features of systems or subsystems
- Methods and acceptance criteria for testing of subsystems or systems.

#### Reliability, Availability, Maintainability (RAM) aspects

- RAM requirements
- RAM assurance during lifecycle
- Specific hazards related to rolling stock
- Methods for assessing
- Reliability testing.

All these topics are considered in the framework of the growing importance of urban transport and of the need to avoid to re-invent costly new solutions for each new metro system all over the world.

### **B. MANAGEMENT STRUCTURE OF THE TC**

Describe the management structure of the TC (use of an organizational chart is acceptable) (should be integrated by CO automatically) and, if relevant (for example an unusual structure is used), provide the rationale as to why this structure is used.

Note: Check if the information on the IEC website is complete.

When was the last time the TC reviewed its management structure? Describe any changes made. When does the TC intend to review its current management structure? In the future, will the TC change the current structure, for example due to new and emerging technologies, product withdrawal, change in regulations etc. Please describe.

Make sure the overview includes:

- any joint working groups with other committees,
- any special groups like advisory groups, editing groups, etc.

### **Management Strategy**

In order to anticipate the needs and therefore to investigate the operating mid-term strategy to be proposed for adoption by TC9, a *Chairman Advisory Group (CAG)* has been set up. It is in charge of dealing with the following:

- to identify priorities in the technical activities;
- to identify technologies to be standardised;

- to identify subjects needed but not yet covered by current standardisation;
- to identify and evaluate any existing PAS and/or de-facto standards and/or standardisation trend;
- to review market needs of the particular sector taking into account the needs of users including consumers where appropriate;
- to provide guidance to TC9 in defining its Strategic Business Plan, particularly in light of the above;
- to review and establish priorities of work at the systems level in order to help TC9 in this development;
- to assess effectiveness of the programme of work in meeting the needs of the sector;
- to advise TC9 on possible overlaps, conflicts and gaps and recommend corrective action;
- to review all potential new work items;
- to act in the framework of IEC policy on Global Relevance;
- to identify the items impacted by:
  - European Interoperability Directives, TSIs
  - ,
  - regulations in Asia,
  - regulations in America,
  - any other ...

All of the above aims at establishing and periodically reviewing and updating the TC9 mid-term strategy, part of which is mainly driven by Cenelec TC9X activities.

This *Chairman Advisory Group* is chaired by IEC/TC9 chairman, the secretariat being that of TC9.

The Officers of CENELEC/TC9X are invited as guests. The members are high rank representative of operators and supply industry within every region of the world. This group works along the terms of reference which have been adopted by TC9.

Type	Label	Description	Scope	Creation Date
Advisory Groups	AG CAG	Chairman Advisory Group		2008-07-25

#### IEC/TC 9 - UIC collaboration

Four new Advisory Groups have been created to follow and work on common topics with UIC:

Type	Label	Description	Scope	Creation Date
Advisory Groups	AG SLG SG Multimedia	IEC UIC SLG Subgroup Multimedia		2015-10-27
Advisory Groups	AG SLG SG OCL	IEC UIC SLG Subgroup Overhead Contact Lines		2015-10-27
Advisory Groups	AG SLG SG Trainet	IEC UIC SLG Subgroup Trainet		2015-10-27
Advisory Groups	AG SLG	IEC UIC SLG (Strategic Liaison Group)		2015-10-27

#### Maintenance Strategy

IEC/TC 9 maintains regularly its standards in Maintenance Teams.

Maintenance Team(s) created since the last plenary meeting:

- MT 61991

Maintenance Team(s) disbanded since the last plenary meeting:

Type	Label	Description	Scope	Creation Date
Maintenance Teams	MT 32	Maintenance of IEC 61133	Revision of the standard taking into account needs identified through the maintenance process and edition of EN 50215	2008-07-25
Maintenance Teams	MT 61991	Railway Applications - Rolling stock - Protective provisions against electrical hazards	- To maintain IEC 61991 Ed.1	2015-11-05
Maintenance Teams	MT 60077	Railway applications – Electric equipment for rolling stock	To revise IEC 60077 series	2014-01-07
Maintenance Teams	MT 62505	Railway applications – Fixed installations – Particular requirements for alternating current switchgear – Part 1: Circuit-breakers with nominal voltage above 1 kV; Part 2: Disconnectors, earthing switches and switches with nominal voltage above 1 kV	- Revision of IEC 62505-1:2009 and IEC 62505-2 considering the new editions of EN 50152-1 and EN 50152-2	2013-05-24
Maintenance Teams	MT 62486	Railway applications – Current collection systems – Technical criteria for the interaction between pantograph and overhead line (to achieve free access)		2012-11-13
Maintenance Teams	MT 61992	Railway applications - Fixed installations - DC switchgear	- to provide the CD texts for the 2 amendments (IEC 61992-1 and 61992-2) by end of September 2012; and - to provide recommendation on a potential revision of IEC 61992-6 at the next TC9 plenary meeting.	2011-12-01
Maintenance Teams	MT 62236	Railway applications - Electromagnetic Compatibility		2008-07-25
Maintenance Teams	MT 60310	Railway applications - Traction transformers and inductors on board rolling stock		2008-07-25
Maintenance Teams	MT 61377	Railway applications - Rolling stock - Combined testing of traction motors		2008-07-25
Maintenance Teams	MT 60050	International Electrotechnical Vocabulary - Electric traction (IEC 60050-811; - 821)		2008-07-25

## New items and Merging Strategy with CENELEC

- New items:

IEC/TC 9 develops its new standards in Project Teams or in Working Groups.

- Merging Strategy with CENELEC:

In order to implement the Dresden Agreement in a strategic way, IEC and CENELEC have agreed upon a Merging Strategy between IEC TC9 and CENELEC TC 9X

This merging strategy is organised as a general principle document, referred to as 9/1981/DC, and an implementation document. These documents will be updated from time to time by the Officers of IEC/TC9 and Cenelec/TC9X.

Project Team(s) created since the last plenary meeting:

- PT 62995
- PT 62848-2

Project Team(s) disbanded since the last plenary meeting:

- PT 62845
- PT 62912

Type	Label	Description	Scope	Creation Date
Project Teams	PT 62597	Railway applications - Measurement procedures of magnetic field levels generated by electronic and electrical apparatus in the railway environment with respect to human exposure		2009-02-17
Project Teams	PT 62995	Railway applications – Rolling stock – Rules for installation of cabling	- To develop IEC 62995	2015-04-10
Project Teams	PT 62848-2	Railway applications - Fixed installations - D.C. surge arresters and voltage limiting devices - Part 2: Voltage limiting devices	- To develop IEC 62848-2	2015-04-10
Project Teams	PT 62973	Railway applications – Batteries for auxiliary power supply systems		2014-12-19
Project Teams	PT 62928	Railway applications – Rolling stock equipment - Onboard lithium-ion traction batteries	To prepare the draft of IEC 62928 Ed 1, Railway applications – Rolling stock equipment - Onboard lithium-ion traction batteries	2014-03-28
Project Teams	PT 62924	Railway applications - Fixed installations - Stationary energy storage system for DC traction system	To prepare the draft of IEC 62924 Ed 1, Railway applications – Fixed installations – Stationary energy storage system for DC traction systems	2014-03-12
Project Teams	PT 62917	Railway applications – Fixed installations –		2014-01-17

		Electric traction – Copper and copper alloy grooved contact wires (EN 50149)		
Project Teams	PT 62888	Railway applications – Energy measurement on board trains		2013-08-08
Project Teams	PT 62864-1	Railway applications – Rolling stock – Power supply with onboard energy storage system – Part 1: Series hybrid system		2013-02-28
Project Teams	PT 62848-1	Railway applications – Fixed installations – D.C.surge arresters and voltage limiting devices – Part 1: Surge arresters	- To endorse EN 50526-1 as a new standard (part of a new series)	2012-10-29
Project Teams	PT 62847	Railway applications - Rolling stock - Electrical connectors - Requirements and test methods		2012-10-23
Project Teams	PT 62846	Railway applications - Current collection systems - Requirements for and validations of measurements of the dynamic interaction between pantograph and overhead contact line		2012-10-23

Working Group(s) created since the last plenary meeting:

- None

Working Group(s) disbanded since the last plenary meeting:

- None

Type	Label	Description	Scope	Creation Date
Working Groups	WG 40	Railway applications- Urban Guided Transport Management and Command/Control Systems		2008-07-25
Working Groups	WG 43	Railway applications - Train communication network (TCN)	a) To complete the ongoing work on projects 61375-1 and 61375-2 b) to define and implement a work plan to incorporate new bus candidates in the TCN framework.	2008-07-25
Working Groups	WG 46	Onboard multimedia systems for railways		2009-02-16
Working Groups	WG 48	ODIS - On board Driving Information System		2009-04-01

## NWIP preparation

The preparation of the NWIs and the preliminary studies are made in specific ad-Hoc Groups.

Ad-Hoc Group(s) created since the last plenary meeting:

- AHG 12
- AHG 13
- New ad-Hoc Group expected to prepare a NWIP on "Copper and copper alloy messenger wires for overhead contact line/catenary systems"

Ad-Hoc Group(s) disbanded since the last plenary meeting:

- AHG 05

Type	Label	Description	Scope	Creation Date
ad-Hoc Groups	AHG 9	Amendment to IEC 62278 for RAM		2012-10-17
ad-Hoc Groups	AHG 12	Direct current signalling monostable relays of spring type	- To prepare a NWIP on direct current signalling monostable relays of spring type	2015-04-10
ad-Hoc Groups	AHG 13	Future evolution of IEC TS 62597		2015-10-26
ad-Hoc Groups	AHG XX		- To prepare a NWIP on "Copper and copper alloy messenger wires for overhead contact line/catenary systems"	Questionnaire on circulation

## C. BUSINESS ENVIRONMENT

Provide the rationale for the market relevance of the future standards being produced in the TC.

If readily available, provide an indication of global or regional sales of products or services related to the TC/SC work and state the source of the data.

Specify if standards will be significantly effective for assessing regulatory compliance.

In the recent years, the railway sector has been subject to changes which have greatly influenced the design of railway systems and these changes concern operating characteristics as well as the technology involved.

One consequence of the recent evolutions made is that after a period when the users were the leaders of the standardisation works, the manufacturers are now the more deeply involved and they act on a world wide area.

The task of IEC/TC9 is influenced by regional activities such as those resulting from the adoption of EC Directives by the European Union. Therefore IEC should see where there is a need of an attractive action for worldwide standardization by:

- adapting regional standards when possible;
- creating original International Standards when there is a specific need different from regional ones;
- focusing its means preferably on general worldwide items.

The goal is that in a near future IEC/TC9 will be responsible of a full coherent set of standards, the one based on regional standards included.

#### D. MARKET DEMAND

Provide a list of likely customers of the standards (suppliers, specifiers, testing bodies, regulators, installers, other TC/SC's etc.). Do not specify company names, only categories of customers.

International standardisation in the railway field has for a long time been focused to guidance and general considerations.

In any case the demand is driven by the technical development of modern transportation and the movement towards computer based management, control and communication systems while the need to maintain a high level of safety remains a high level priority. These can be a source of difficulty insofar as implementation of solutions is quick, their different characteristics not necessarily compatible and a product standard cannot be restricted to any single accurate product.

It is important that standards do 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 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.

#### E. TRENDS IN TECHNOLOGY AND IN THE MARKET

If any, indicate the current or expected trends in the technology or in the market covered by the products of your TC/SC.

##### **Trends in technology**

Increasing performance in traction systems has become possible through techniques based on power electronics on board allowing the use of traction motors having higher power-to-weight ratio.

In the meantime high speed processors were developed for:

- power control (electronics converters or inverters),
- operating control (new operating procedures, automation of some functions, monitoring, diagnostic and maintenance procedures, data transmission for operation and overhaul).

Both power control and operating control have relevant functionalities that are implemented with equipment where software is playing a more and more important role.

Traction systems involve three "paths":

- intelligence path,
- electric power path,
- mechanical power path,

the whole including all apparatus, components and connections of those paths inside/between vehicles, taking the following into account:

- presence of high frequencies, even inside power equipment, requires EMC specifications inside and outside;
- speed increasing causes stray frequencies for mechanical quantities and consequently mechanoacoustic compatibility problems, either inside or outside of vehicles;
- operation on the same network of various traction systems (i.e. dc and ac supply) demands further attention to galvanic compatibility concerns between them and with environment;
- interchangeability of locomotives and rolling stocks requires to maintain compatibility for modern control systems;
- automatic people movers require specific provisions as fully automatic systems...

##### **Market trends**

The expansion of urban and suburban transport systems as well as automatic people movers together with the increasing speed of inter-city trains should be emphasized.

This evolution has nevertheless not deeply changed some specific conditions applying to the use



of electrical equipment on railways, namely electric propulsion by motors, particular environmental conditions on board vehicles, an exceptional life cycle (up to 40 years) and high reliability.

The increase of trade exchange and the development of new technology lead to an ever growing need of technical compatibility between systems and sub-systems.

**F. SYSTEM APPROACH ASPECTS (REFERENCE - AC/33/2013)**

Does your TC/SC have a need for a systems approach?

If so:

- Will the Systems work be in a single TC or in multiple TCs?
- Will a Systems Evaluation Group (SEG), Systems Committee (SyC), or Systems Resource Group be required?
- Is your TC/SC work of relevance to ISO?
- Is or are there fora or consortia working in parallel to IEC? Is there a chance to integrate this work in your TC/SC?

This should not only be restricted to the customer/supplier relationships with other TC/SCs indicating types of co-operation (e.g. liaisons, joint working groups) but be of a more generic nature.

If there is no need for a systems approach as outlined in AC/33/2013, is it intended a TC would not be requested to report on general systems approach considerations such as customer/supplier relationships, liaisons, joint WGs, etc. as referenced in the system approach matrix illustrated in slide 14 of the presentation attached to AC/37/2006?

The traditional approach (i.e. product by product) should be supplemented by an approach making better allowance for the functional aspects of systems and subsystems. This approach is justified by the increasing complexity of interaction between equipment and by the application of quality control procedures (ISO 9001) during the design and testing phases

The whole railway field is technically a very important system because it involves a lot of various technologies having to work efficiently together inside equipment or railway subsystems in order to operate properly and in a safe way. This aspect explains two main characteristics of TC9 activity:

- TC9 is developing standards which can be of various kinds: system, component or principles;
- There is no particular TC in IEC with which a standardization system approach can be permanently identified but a lot of liaisons which are set up regarding the current concerns at one moment.

In order to meet that fundamental goal, International railway standardization shall consider in a coherent way the application of standards which could be fully specific, partly specific or not specific to the railway field.

On the other hand TC9 is fully integrated into the whole International IEC process which involves a lot of TCs of various kinds: horizontal, technology specialized, concept or safety or environment oriented.

It is the reason why TC9 has been adopting the following policy for a long time:

- Once the need for a standard is identified, it is first investigated whether existing standards prepared by other TCs can apply, fully or partly,
- If they exist and they can fully meet the goal, nothing more is to be done by TC9,
- If they exist but there is a need for specific changes or additions for the railways, drafting a railway standard can be undertaken within TC9 provided that this standard will refer to the existing more general ones and will specify only what the latter do not contain; In the case that a railway standard includes specific requirements which are derived from a general standard, and that this general standard is revised then the railway standard shall be revised if necessary
- If they do not exist, TC9 of course undertakes the full task, with possible liaisons as appropriate; in this context TC9 has set up liaisons with the following committees, inside

IEC as well as with external organizations:

TC/SC	Title	Main goal
SC 21A	Secondary cells and batteries containing alkaline or other non-acid electrolytes	To ensure coordination about batteries
SC 32 B	Low-voltage fuses	To ensure coordination about fuses
TC 36	Insulators	To ensure coordination about insulators
TC 40	Capacitors and resistors for electronic equipment	To ensure coordination about capacitors for power storage
SC48B	Connectors	To ensure coordination about electric connectors
TC 56	Dependability	To ensure coordination about dependability on rolling stock equipment
TC 69	Electric road vehicles and electric industrial trucks	To ensure coordination for the development of double-layer capacitors for energy storage
TC79	Alarm and electronic security systems	To deal with the interfaces between IEC 62580 series of TC9 and 62676 series of TC 79
TC 99	System engineering and erection of electrical power installations in systems with nominal voltages above 1 kV a.c. and 1,5 kV d.c., particularly concerning safety aspects	To make sure there is no overlap, particularly in the scope of IEC 61936-1
TC 100	Audio, video and multimedia systems and equipment	To ensure coordination for the development of multimedia application on-board rolling stock
TC 106	Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure	To ensure coordination in the development of standards dealing with EMF
TC 109	Insulation co-ordination for low-voltage equipment	To ensure coordination in the development of standards dealing with insulation coordination
TC111	Environmental standardization for electrical and electronic products and systems	To make sure that environmental aspects are well taken into account in TC9 standards
CISPR B	Interference relating to industrial, scientific and medical radio-frequency apparatus, to other (heavy) industrial equipment, to overhead power lines, to high voltage equipment and to electric traction	To ensure coordination on EMC aspects
JTC1 SC29	Coding of Moving Pictures and Audio	To ensure coordination in the development of multimedia protocol for on-board multimedia applications
IEEE P1901	Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications	To ensure coordination in the development of communication protocols for train communication networks
ISO/TC269	Railway Applications	To ensure coordination in the development of international standards related to railway applications between electrical and non-electrical activities
UIC	International Union of Railways	To ensure coordination with UIC programme of work and to receive information on the operational aspects.
UITP	International Association of Public Transport	To ensure coordination in the development of international standards related to urban transport

**G. CONFORMITY ASSESSMENT**

With reference to clause 6.7 of Part 2 of the ISO/IEC directives, are all your publications in line with the requirements related to conformity assessment aspects?

Will the TC/SC publications be used for IEC Conformity Assessment Systems (IECEE, IECEx, IECQ, IECRE)?

Will any of your standards include test specifications, reproducible test requirements, and test methods?

Are there likely to be special conformity assessment requirements generated by any standards projects? If yes, list which projects.

All TC9 publications are in line with the requirements related to conformity assessment aspects, but they are not used for IEC Conformity Assessment Systems.

Some of TC9 standards include test specifications, reproducible test requirements, and test methods.

The following projects includes special conformity assessment requirements:

Project Reference	Title	Document Reference	§ containing conformity assessment requirements
IEC 60310 Ed. 4.0	Railway applications - Traction transformers and inductors on board rolling stock	9/2080/FDIS	13.2.11.1, 13.2.11.3, 13.2.11.4
IEC 61133 Ed. 3.0	Railway applications - Rolling stock - Testing of rolling stock on completion of construction and before entry into service	9/2096/FDIS	4.3
IEC 62888-1 Ed. 1.0	Railway applications - Energy measurement on board trains - Part 1: General	9/2028/CD	1
IEC 62888-2 Ed. 1.0	Railway applications - Energy measurement on board trains - Part 2: Energy measuring	9/2062/CD	1, 5.1.2.1, 5.3.1
IEC 62888-3 Ed. 1.0	Railway applications - Energy measurement on board trains - Part 3: Data handling	9/2063/CD	1, 5 and its subclauses
IEC 62888-4 Ed. 1.0	Railway applications - Energy measurement on board trains - Part 4: Communication	9/2064/CD	1, 3.18, 4.2.2, 5 and its subclauses, C.2.5, C.3.2

**H. 3-5 YEAR PROJECTED STRATEGIC OBJECTIVES, ACTIONS, TARGET DATES**

STRATEGIC OBJECTIVES 3-5 YEARS	ACTIONS TO SUPPORT THE STRATEGIC OBJECTIVES	TARGET DATE(S) TO COMPLETE THE ACTIONS
<p><b><u>Merging Strategy with CENELEC</u></b></p> <p>In order to implement the Dresden Agreement in a strategic way, IEC and CENELEC have agreed upon a Merging Strategy between IEC TC9 and CENELEC TC 9X</p> <p>This merging strategy is</p>	<p>The documents will be updated from time to time by the Officers of IEC/TC9 and CENELEC/TC9X.</p>	<p>Continuous action without target date.</p>

<p>organised as a general principle document, referred to as 9/1981/DC, and an implementation document.</p>		
<p><b><u>Merging Strategy with CENELEC</u></b></p> <p>TC 9 decided to endorse the following EN standard offered by CENELEC/TC9X.</p>	<p>IEC 62995 results from the endorsement by IEC/TC 9 of EN 50343:2014 "<i>Railway applications – Rolling Stock – Rules for installation of cabling</i>".</p> <p>PT 62995 works on this endorsement.</p>	<p>CD text to be delivered in June 2016 at the latest</p>
<p><b><u>Merging Strategy with CENELEC</u></b></p> <p>TC 9 decided to endorse the following EN standard offered by CENELEC/TC9X.</p>	<p>IEC 62848-1 results from the endorsement by IEC/TC 9 of EN 50526-1:2012 "<i>Fixed installations - D.C. surge arresters and voltage limiting devices - Part 1: Surge arresters</i>".</p> <p>PT 62848-1 works on this endorsement.</p>	<p>FDIS circulation expected in January 2016</p>
<p><b><u>Merging Strategy with CENELEC</u></b></p> <p>TC 9 decided to endorse the following EN standard offered by CENELEC/TC9X.</p>	<p>IEC 62848-2 results from the endorsement by IEC/TC 9 of EN 50526-2:2014 "<i>Fixed installations - D.C. surge arresters and voltage limiting devices - Part 2: Voltage limiting devices</i>".</p> <p>PT 62848-2 works on this endorsement.</p>	<p>CD text waited for June 2017.</p>
<p><b><u>Merging Strategy with CENELEC</u></b></p> <p>TC 9 decided to endorse the following EN standard offered by CENELEC/TC9X.</p>	<p>IEC 62888 results from the endorsement by IEC/TC 9 of EN 50463:2012 "<i>Railway applications - Energy measurement on board trains</i>".</p> <p><u>Under preparation</u></p> <p>PT 62888 works on the six drafts under preparation:</p> <ul style="list-style-type: none"> <li>• IEC 62888-1</li> <li>• IEC 62888-2</li> <li>• IEC 62888-3</li> <li>• IEC 62888-4</li> <li>• IEC 62888-5</li> <li>• IEC 62888-6</li> </ul>	<ul style="list-style-type: none"> <li>• IEC 62888-1. CDV text ready for circulation to secretary expected 1<sup>st</sup> December 2015.</li> <li>• IEC 62888-2,-3,-4. The closing of CD enquiry is expected for 6<sup>th</sup> November 2015.</li> <li>• IEC 62888-5,-6. CD text ready for circulation expected by 3<sup>rd</sup> March 2016.</li> </ul>
<p><b><u>Cooperation agreement between IEC and UIC</u></b></p>	<p>TC 9 Officers will prepare a draft of process of UIC-IEC cooperation and justification for cooperation (see IEC/TC9</p>	<p>Draft process text waited for plenary meeting 2016 at the latest</p>

	resolution 55/04).	
<b><u>Cooperation agreement between IEC and UIC</u></b>	TC 9 requests UIC to share its work program twice per year (in March and in September) for circulation inside TC 9 (see IEC/TC9 resolution 55/07).	Continuous action without target date.
<b><u>IEC 61375 series</u></b> TC 9 decided to work on “ <i>Train communication network (TCN)</i> ” and delegated WG 43 to produce the standards.	<p><u>Published standards</u></p> <ul style="list-style-type: none"> <li>• IEC 61375-1, -2-1, -2-2, -2-3, -2-5, -3-1, -3-2, -3-4 and IEC/TR 61375-2-7.</li> </ul> <p><u>Under preparation</u></p> <p>WG 43 works on the last two drafts under preparation:</p> <ul style="list-style-type: none"> <li>• IEC/TS 61375-2-4</li> <li>• IEC/DTS 61375-2-6</li> </ul>	<ul style="list-style-type: none"> <li>• IEC/TS 61375-2-4 is under CDTS enquiry. Closing date: 2016-02-12</li> <li>• IEC/DTS 61375-2-6 is under CD enquiry. Closing date: 16-10-2015. CDV text expected no later than February 2016.</li> </ul>
<b><u>IEC 62580 series</u></b> TC 9 decided to work on “ <i>On-board multimedia systems for railway</i> ” and delegated WG 46 to produce the standards.	<p><u>Published standards</u></p> <ul style="list-style-type: none"> <li>• IEC 62580-1</li> </ul> <p><u>Under preparation</u></p> <ul style="list-style-type: none"> <li>• IEC/CD 62580-2</li> </ul> <p><u>Future Projects</u></p> <ul style="list-style-type: none"> <li>• IEC 62580-3</li> <li>• IEC 62580-4</li> <li>• IEC 62580-5</li> </ul>	IEC/CDTS 62580-2 draft will be provided at the beginning of November 2015.
Note: The progress on the actions should be reported in the RSMB.		

## **Annex: Ecological environment**

In terms of environment, the considerations (e.g.: noise emission of equipment) to be incorporated into railway product standards can be performance requirements only provided that such products standard are developed as performance and interface specifications and not as technologically descriptive.

In that respect amendments to existing product standards should be envisaged to take into consideration also the disposal, recyclability, reusability and toxicity concerns where necessary.

In addition specific environmental railway generic standard should be developed for application and reference in various product standards:

- EMC specifications are developed to cover the emission of the railway system towards the external world;
- Other environmental aspects such as stray currents are investigated;
- Acoustics should be envisaged as a possible matter of standardisation as well.

In accordance with the creation of TC 111, for environmental matters that will be dealt with by TC9, the support and advice of TC111 will be sought.

TC9 is exploring further possibilities for standardization projects to pursue energy management in view of assisting and promoting the energy efficiency in trains and associated infrastructure.

Particularly TC9 promotes or currently works on new work items in the following areas:

- on-board energy measuring for supporting energy calculation and saving;
- energy saving, e.g. assisting driver for optimal driving and energy management by Train Control and Monitoring System (TCMS);
- recovery of braking energy, e.g. reversible electrical sub-station, hybrid traction and onboard or stationary energy storage.

In consideration of the merging strategy, TC9 will coordinate this topic with CENELEC TC9X.

## **Annex: Action plan**

### **1 Continuous actions**

The current work programme of TC9 is recorded in the IEC database.

In order to take into account the limited expertise resources, urgent European priority items such as provisions linked with interoperability Directives are dealt with at European level only for the time being and will be discussed at international level (preferably at CD or CDV stage when approved as new item) when completed by CENELEC whilst following the Dresden agreement as far as possible.

A close permanent relationship has to be maintained and improved between the entities at present involved in international and regional railway standardisation work, namely IEC/TC9, CENELEC/TC9X and UITP.

It will be necessary to harmonise as far as possible the horizontal standards of general interest and the railway standards prepared by TC9; as stated above, relevant formal liaisons should be set up where necessary, e.g. with CISPR for EMC-related standards.

TC9 has to hold meetings according to an appropriate frequency (i.e. once a year for the time being).

In order to ensure an efficient work management, common meetings of convenors and project leaders have to be held regularly between plenary meetings (i.e. once a year for the time being, roughly six months after a plenary meeting) ; during such meetings TC9/Officers, convenors and project leaders are empowered to agree upon recommendations to be submitted to TC9 for endorsement.

TC9 encourages the use of multimedia means in order to lower the costs and improve efficiency

In order to ensure a coherent monitoring of railway standardisation and to implement the merging strategy with CENELEC, common meetings of chairmen and secretaries of IEC/TC9 and CENELEC/TC9X have to be held regularly (i.e. once a year for the time being).

## **Annex: Useful links to IEC web site**

- TC home page - TC/SC Officers, Scope, Liaisons, WG/MT/PT structure
- Membership
- Publications issued
- Work Programme
- Maintenance programme

Name or signature of the secretary

B. LEROUGE