

# CEN TC256 WG01 PROGRESS:

SHARING LATEST PROGRESS ON THE WORK DONE BY CEN TC256 WG01 ON  
THE EUROPEAN STANDARD EN45545

## IV INTERNATIONAL CONFERENCE MODERN TRENDS OF FIRE PROTECTION IN ROLLING STOCK WARSAW 2018-05-15

### AUTHORS:

SERGE MÉTRAL (SNCF) CONVENOR OF CEN TC256 WG1

GUILLAUME CRAVEUR (SNCF) FIRE SAFETY EXPERT

# LET ME INTRODUCE MYSELF

I AM

- + From the SNCF Centre d'Ingénierie du Matériel  
(Rolling Stock Engineering Centre)
- + Convenor of CEN TC256 WG1 Fire Protection in  
Rolling stock
- + Speaker for CER in the TSI LOC&PAS working party

# CENTRE D'INGÉNIERIE DU MATÉRIEL WHO ARE WE ?

## ROLLING STOCK ENGINEERING CENTRE

Part of the SNCF Rolling Stock Division, located at Le Mans

Over **70 years of experience** in railway rolling stock engineering

250 technicians & engineers with cutting-edge technical skills  
covering 90 technological and scientific railway disciplines

# CENTRE D'INGÉNIERIE DU MATÉRIEL WHO ARE WE ?

## **Comprehensive know-how**

Specification, support to development, design and installation of railway rolling stock and its equipment,

Assistance to project management for all rolling stock

Know-how upgraded by analysis of operational feedback and technology watch

**Clients** : Operators - Manufacturers - Equipment suppliers - Rolling stock and wagon operators - Wagon owners - Organising Authorities - Institutional bodies - Infrastructure managers

# WHAT DO WE DO ?

## Technical responsibilities

- Project Management
- Safety and braking equipment
- Diesel engine
- Bogies and bearing equipment
- Propulsion and energy conversion
- Body structure and interior fittings
- Systems engineering and transverse functions



# WHAT DO WE DO ?

## Services

- Procurement and refurbishment of rolling stock
- Assessment and diagnostics
- Functional and technical standards drafting
- Safety equipment integration and qualification
- Verification of component compliance with standards & regulations
- Assistance and advice for rolling stock design and homologation

*All engineering services available with*

&

**MASTERIS**

<http://www.masteris.com>

 **eurailtest**  
A WORLD LEADER IN RAIL TESTING & CONSULTING

<http://www.eurailtest.com>



# FIRE SAFETY FOR RAIL VEHICLES - SUMMARY

**Work done by CEN TC256 WG1 FPRS**

**Work to be done by CEN TC256 WG1 FPRS**

- TSI LOC&PAS
- Decision of CEN TC256 Technical meeting
- Timeframe

**Transitional period**

# STANDARDISATION EN 45545

**EN 45545: Railway applications — Fire protection on railway vehicles** *published in March 2013*

**in 7 parts**

**Part 1: General**

**Part 2: Requirements for fire behaviour of materials and components**

**Part 3: Fire resistance requirements for fire barriers**

**Part 4: Fire safety requirements for railway rolling stock design**

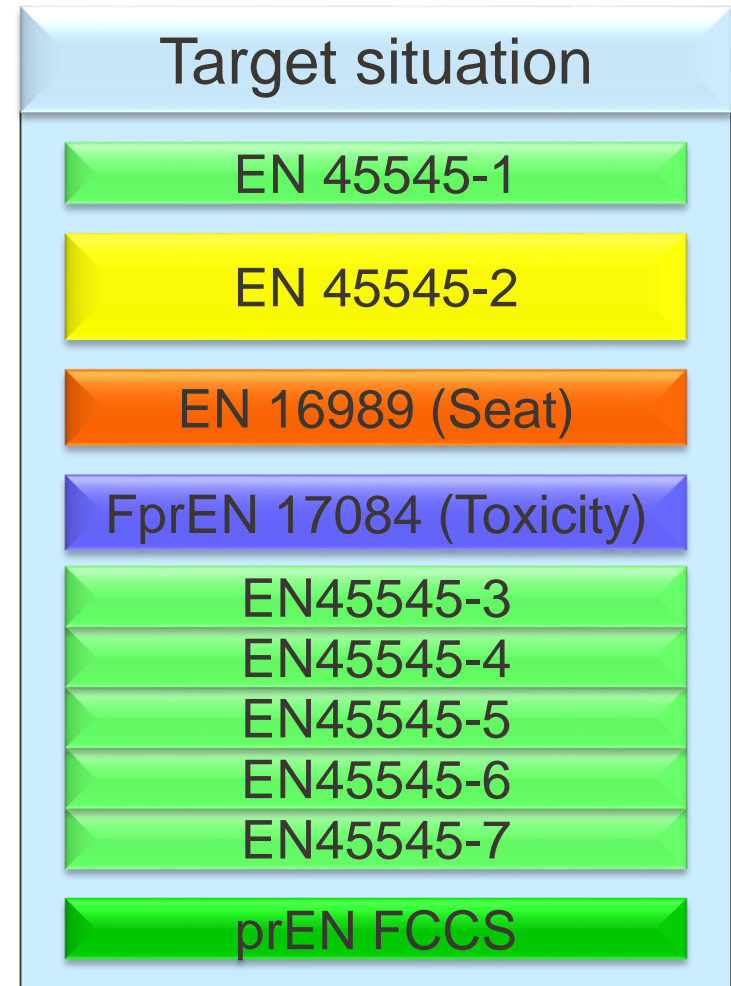
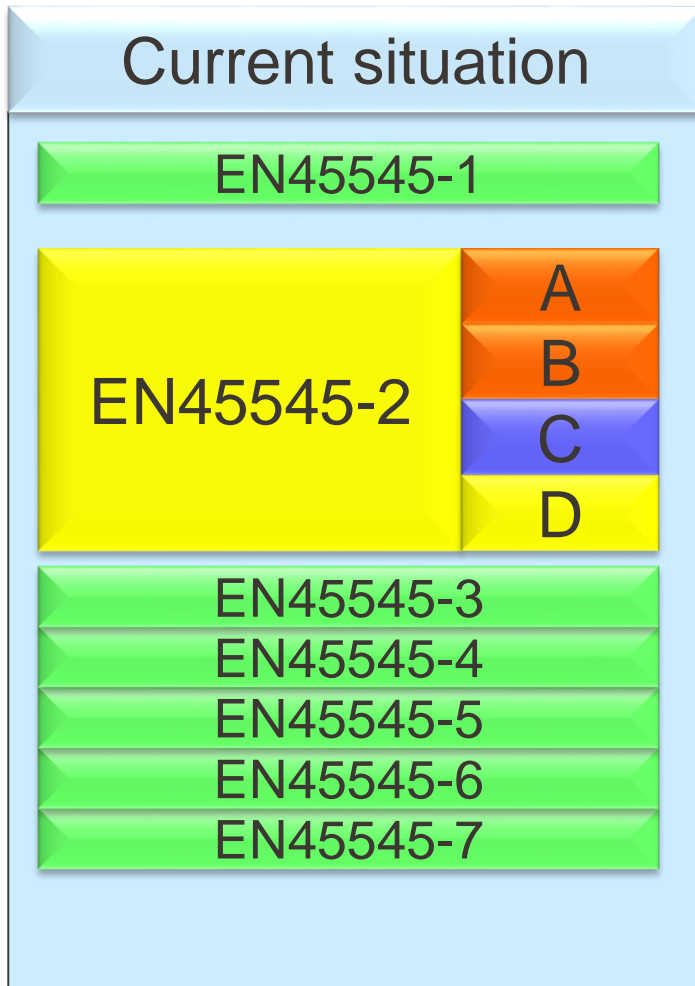
**Part 5: Fire safety requirements for electrical equipment including that of trolley buses, track guided buses and magnetic levitation vehicles**

**Part 6: Fire control and management systems**

**Part 7: Fire safety requirements for flammable liquid and flammable gas installations**



# CEN TC256 WG1 WORK PROGRAM



# EN16989 / EN 45545-2 Annexes A & B

## EN16989 Fire behaviour test on complete seats for railway vehicles

Based on Annexes A and B of EN45545-2:2013

Modification of the location of the burner (4 new holes, space between seat back)

HRR of the burner at 15 kW

Vandalization test machine well defined

Approved by formal vote 18<sup>th</sup> January 2018

In Publication process (middle of 2018 ?)

# FprEN17084 / EN 45545-2 Annex C

## **FprEN17084 (WI0740) Testing method for determination of combustion products from railway products**

Based on Annex C of EN45545-2:2013

Copy text of DIS 19021 (not accepted as ISO standard)

Calculation of CIT, FED and FEC

**Comment Resolution Meeting the 9<sup>th</sup> January 2018**

**Accepted for Formal vote (June 2018 ?)**

**Publication ASAP following Formal vote (End 2018 ?)**

# prEN FCCS

## **Title or the standard:**

Railway application – Assessment of Fire Containment and Control Systems for railway vehicles

## **Scope of the standard:**

This standard specifies the assessment of Fire Containment and Control Systems for railway vehicles which comply with EN45545-2 (material properties) and EN45545-4 (design rules).

This standard describes:

- Assessment of installation and capability of fire detection system
- Assessment of Interaction between fire detection system and FCCS
- Application and limitations of assessment process (mock-up or real scale test)

It considers the re-assessment of FCCS when vehicles which have already been assessed with FCCS are modified.

# prEN FCCS

- Requested to link this with the TSI option that an FCCS may be used in place of a physical tested fire barrier by ERA, the drafting of this standard is in progress
- CEN enquiry to be planned when consensus on clauses 4 (Fire detection) and 5 (FCCS) has been reached (moderate progress at this time)
- When ?
- After CEN enquiry, review of comments, CRM, Formal vote, Publication
- When ?

# REVISION PHASE 1 OF EN45545-2 DECISION OF CEN TC256 (NOVEMBER 2017)

**To avoid 10 years period for the revision of EN45545-2, carry it out have a revision in 2 phases for EN45545-2:**

Phase 1: To incorporate the changes resulting from issue of EN16989, EN17084 and CLC TC9X requests. Additionally to include other non controversial changes “Easy to be done” (consensus of the group and easy to write) (including CLC TC9X request)

Phase 2: Difficult to do (no consensus or study result needed or return of experience ...)

Start by revision phase 1 then have an immediate revision for some or all other points.

**The Advisory Group of CEN TC256 WG01 had prepared a New Work Item Proposal (NWIP) and an Instruction Sheet for revision phase 1.**

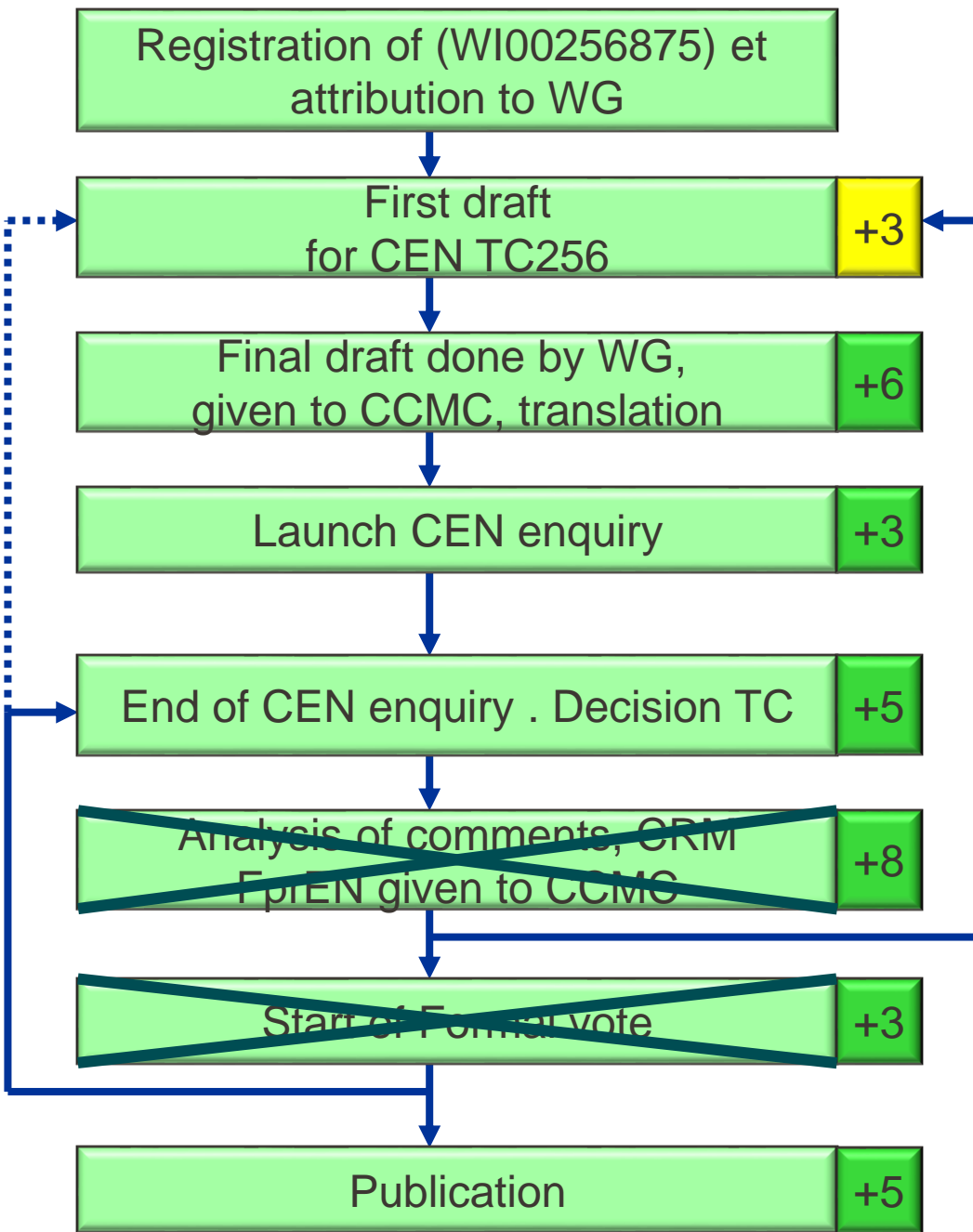
**Launch NWIP enquiry end 2017, result:**

approved by 16 NSB,  
disapproved by 1 NSB,  
abstention by 6 NSB.

**The phase 1 is limited to the points listed in an approved document**

# REVISION PHASE 1 OF EN45545-2

- **Writing a draft document following the NWIP, Instruction sheet**
- First meeting 31<sup>st</sup> January and 1<sup>st</sup> February 2018
- Second and last meeting 18<sup>th</sup> and 19<sup>th</sup> April 2018
- Document prEN45545-2 send to secretariat of CEN TC256 the 4<sup>th</sup> May to launch CEN enquiry
- **And following the CEN process (see next slide)**



Accelerated Processus  
for EN 45545-2  
revision phase 1

TC = Technical committee

CCMC = CEN-CENELEC  
Management Centre

CRM = Comment  
Resolution Meeting





# TSI LOC&PAS

## Current TSI LOC&PAS

n°1302/2014 (18 November 2014 amended 27 May 2016) refers to EN45545-2:2013 with a transitional period for national standards until 2017-12-31.

Next TSI LOC&PAS Taking into account 4<sup>th</sup> Railway Package (Route compatibility & One Stop Shot) end of drafting June 2018 – Publication expected middle 2019

Next technical revision starts in September 2018, planned to finish middle of 2019 – Publication expected middle 2020

This TSI should refer to EN45545-2 after revision phase 1.

# TIME FRAME

|                | <b>TSI LOC&amp;PAS</b>    | <b>EN45545-2</b>                           |
|----------------|---------------------------|--|
| January 2018   |                           | Start revision phase 1                     |
| April 2018     |                           | End of drafting                            |
| September 2018 | Start technical revision  | CEN enquiry                                |
| January 2019   |                           | Decision to skip formal vote               |
| June 2019      | End of technical revision | Publication of revision phase 1            |
| January 2020   | Approval of TSI           | Start of Revision EN45545-3, -4, -5 and -7 |
|                |                           | Then -6, -2 and -1                         |

# NEXT STEPS (WORK TO BE DONE BY CEN TC256 WG01)

**CEN TC256 launch 5 years enquiry for the EN45545 series (Start in April 2018, end the 2<sup>nd</sup> September 2018)  
Each country, via its NSB, asks to keep, to cancel (why?) or to revise (what?) for the 7 parts.**

**CEN TC256 decides to put or not in the work program the revision of the relevant parts of EN45545**

**CEN TC256 WG01 writes the prEN45545 parts according the work program. Results expected not before 2021 for the first and easy parts of the work program (3, 4, 5 and 7).**

# TRANSITION PERIOD BETWEEN CURRENT TSI LOC&PAS AND NEXT TECHNICAL REVISION OF THIS TSI WHICH DOCUMENT APPLY ?

|                | TSI LOC&PAS 2014/302                                       | TSI LOC&PAS 2020/xxx                          |
|----------------|--|---|
| EN16989:2018   | Annexes A&B of EN45545-2:2013<br>or<br><b>EN16989:2018</b> | EN45545-2:2020<br>(referring to EN16989:2018) |
| EN17084:2019   | Annex C of EN45545-2:2013<br>or<br><b>EN17084:2019</b>     | EN45545-2:2020<br>(referring to EN17084:2019) |
| EN45545-2:2020 | EN45545-2:2013<br>or<br><b>EN45545-2:2020</b>              | EN45545-2:2020                                |

Document in red is voluntary with use of Annex ZA of the red document  
 Document in blue is voluntary with use of Annex ZA or with agreement of ERA to put reference in TSI LOC&PAS 2020/xxx during the revision process of TSI.

THANK YOU