BSI and railway standards

04/11/2019

The BSI journey so far…..

- Formed by Sir John Wolfe-Barry (designer of Tower Bridge) - BSI was the world's first National Standards Body – then called the Engineering Standards Committee.
- The original BSI committee first met on 22 January 1901 - the day Queen Victoria died !
- The BSI Kitemark was first registered by BSI on 12 June 1903 – the same year in which Harley Davidson, Crayola crayons and the Tour de France were born. Originally known as the British Standard Mark, now one of Britain's most important and most recognized consumer quality marks.
- In 1929 the Engineering Standards Committee was granted a Royal Charter. A supplemental Charter was granted in 1931 changing the name, finally, to The British Standards Institution
- In 1945 a BSI Kitemark licence was issued for copper pipe fittings that is still going strong today – it's the longest running BSI Kitemark.

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The BSI railway journey so far.....

- 1901: Our very first British Standard related to steel sections for tramway rails
- 1924: IEC established TC9 "Traction motors" – now "Electrical and electronic applications for railways"
- 1980: ISO/TC 17 "Steel" set up SC 15 "Railway rails, rails fasteners, wheels and wheelsets"
- 1989: In Europe, CEN established committee CEN/TC 256 "Railway Applications" and CENELEC established CLC/TC 9 "Electrical and electronic applications for railways"
- 2012: ISO established ISO/TC 269 "Railway applications"

- BSI feeds into all of the above areas and has strong representation in each committee.

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BSI national railway committees

- Since 2008 BSI have been working alongside RSSB (Rail Safety and Standards Board) to manage the increasing number of national railway committees in the UK. There are now over 40 BSI committees responsible for more than 400 published standards and over 175 live projects. The committees are divided into the following six key areas:

  - RAE/1 – Railway applications (overarching management committee)
  - RAE/2 – Infrastructure
  - RAE/3 – Rolling stock Products
  - RAE/4 – Rolling stock systems
  - GEL/9 – Railway Electro-technical applications
  - FSH/19 – Fire precautions in railway vehicles

BSI national railway committees

Key players in UK railway committees:

- Regulators (ORR, Rail Safety and Standards Board, Department for Transport)

- Infrastructure owners (Network Rail, London Underground etc)

- UK manufacturers, engineering contractors, suppliers

- Train operating companies (passenger and freight)

- Stakeholders (operators, users etc)

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Summary of work programme (August 2019)

Parent Committee	Number of Sub-committees	Number of published standards	Number of active work items
RAE/1	8	72	16
RAE/2	3	103	62
RAE/3	10	51	28
RAE/4	8	49	29
GEL/9	9	154	30
FSH/19	0	9	1

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Origin of railway standards published by BSI (August 2019)

■ BSI ■ CEN / CLC (European) ■ ISO/IEC (International)
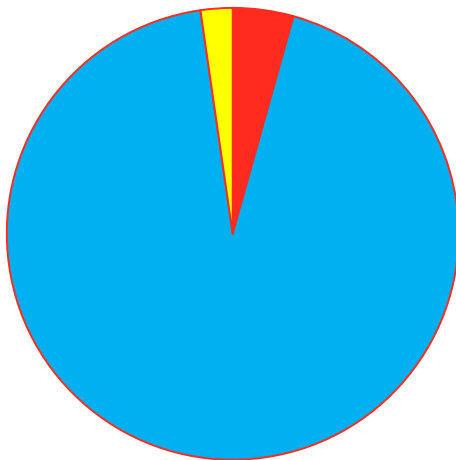
CEN/CENELEC (European) standards	93.0%
ISO/IEC (International) standards	2.5%
BSI (National) standards	4.5%

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GB participation in drafting standards (August 2019)

Standards body	Number of GB Convenors	Number of GB experts	Number of GB expert seats
ISO	2	31	59
IEC	0	16	22
CEN	6	144	183
CENELEC	7	47	101

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LRSSB participation in drafting standards (August 2019)

Four experts nominated by LRSSB to participate in key areas:

- Mr Colin Robey
- Mr Craig O'Brien
- Mr Mark Ashmore
- Mr Steve Duckering
- Currently registered to the majority of UK national committees to retain an overview of standards of interest to light rail (including some non-railway committees)
- May join European and International working groups in future

- Additionally James Hammett (UK Tram) is convenor to CENELEC/SC 9XA/WG 14 who have recently published BS EN 50668:2019 "Railway applications. Signalling and control systems for non UGTMS Urban Rail systems" as a direct result of Mandate M486

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The drive behind European Standards

- 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

- EU directive 2008/57/EC "Interoperability of the rail system within the Community" 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.

- Total size of the European market sector is over 70 billion Euro

- In Europe, over 60 major manufacturers, infrastructure owners and operators are encompassed

- The industry provides employment for over 700,000 people in 800 enterprises
  (source: "EU transport in figures – statistical pocketbook 2012")

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Urban Rail mandate

- M/486/EN (February 2011) "Mandate for programming and standardisation addressed to the European standardisation bodies in the field of Urban Rail"

  - Transport related CO_2 emissions are expected to increase by 57% worldwide in the period 2005 – 2030, much more than in other sectors. In contrast to this, global GHG emissions must be reduced by more than 80% by 2050 from 1990 levels in order to avoid a dangerous climate change.

  - The technical standardisation of urban rail could support a modal shift from private car and increasing demand for public transport thanks to the economies of scale and to the administrative simplification.

  - The European rail industry is a world leader. Harmonisation in the field of operational and technical standards for rail guided urban transport could help in reducing the number of individual solutions, in offering a larger market base to its products and in reducing some of the remaining barriers to trade.

  - Although more than 100 existing European standards are also applicable to urban rail systems, the existing standardisation process in the rail sector based on mandates to CEN, CENELEC and ETSI in the field of High Speed and Conventional Rail systems may not sufficiently address the need for standardisation for urban rail systems.

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The European environment – CEN

European Committee for Standardization

www.cen.eu

Who we are

CEN, the European Committee for Standardization, is an association that brings together the National Standardization Bodies of 34 European countries.

CEN is one of three European Standardization Organizations (together with CENELEC and ETSI) that have been officially recognized by the European Union and by the European Free Trade Association (EFTA) as being responsible for developing and defining voluntary standards at European level.

CEN provides a platform for the development of European Standards and other technical documents in relation to various kinds of products, materials, services and processes.

CEN supports standardization activities in relation to a wide range of fields and sectors including: air and space, chemicals, construction, consumer products, defence and security, energy, the environment, food and feed, health and safety, healthcare, ICT, machinery, materials, pressure equipment, services, smart living, transport and packaging.

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The European environment – CENELEC

www.cenelec.eu

Who we are

CENELEC is the European Committee for Electrotechnical Standardization and is responsible for standardization in the electrotechnical engineering field. CENELEC prepares voluntary standards, which help facilitate trade between countries, create new markets, cut compliance costs and support the development of a Single European Market.

CENELEC creates market access at European level but also at international level, adopting international standards wherever possible, through its close collaboration with the International Electrotechnical Commission (IEC), under the Frankfurt Agreement.

Designated as a European Standards Organization by the European Commission, CENELEC is a non-profit technical organization set up under Belgian law. It was created in 1973 as a result of the merger of two previous European organizations: CENELCOM and CENEL.

The International environment – IEC/TC 9

- IEC/TC 9 "Electrical equipment and systems for railways" - secretariat France, chair Italy

- Established long before its European equivalent, CENELEC/TC 9X, but even now only 30% of standards are produced under IEC/CENELEC parallel processing. Most are developed in CENELEC and offered to IEC subsequently (This is unusual – in most sectors parallel development is usual).

- Non-European P-members are currently: Canada, China, Japan, Democratic People's Republic of Korea, Republic of Korea, Singapore, United States of America.

- Meetings generally alternate between European and non-European venues

The International environment – ISO/TC 269

- ISO/TC 269 "Railway applications" - secretariat Germany, chair Japan

- Non-European P-members are currently: China, Ethiopia, Israel, Japan, Kazakhstan, Korea, South Africa, Sudan

- Currently 6 published standards, and 24 active work items. Some are in new fields, such as Project Planning and Quality Management Systems but the majority are adoption of existing European stds. The ""Vienna Agreement" prohibits duplication of work in both CEN and ISO and encourages parallel development. In ISO/TC 269 there is a "migration strategy" concerning adoption of EN standards.

- There are also a small number of mature standards on steels for railway applications and new items on plastic sleepers, which have their origins in the steel and plastics committees.

- Meetings alternate between European and non-European venues.

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National adoption of European standards

European standards must be adopted by all EU member states:

EN (and EN ISO) standards adopted as identical BS EN (BS EN ISO) publications
- Can have a national foreword and/or annex if necessary
- Any conflicting national (BS) standards must be withdrawn

CEN/TS (and CEN/ISO TS) must be made available
- Published as PD CEN/TS (published documents) in UK

CEN/TR (and CEN/ISO TR)
- Made available as PD CEN/TR (PD CEN/ISO TR) but there is no obligation to do so.

National adoption of International standards

BSI generally adopts ISO and IEC as identical BS ISO (BS IEC) standards unless:

- There is an existing EN covering the subject. (An EN must take preference)
- There is an existing BS in existence which the BSI committee consider better covers the subject
- The BSI committee voted against the standard and does not wish it to be implemented in the UK

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BSI and Brexit

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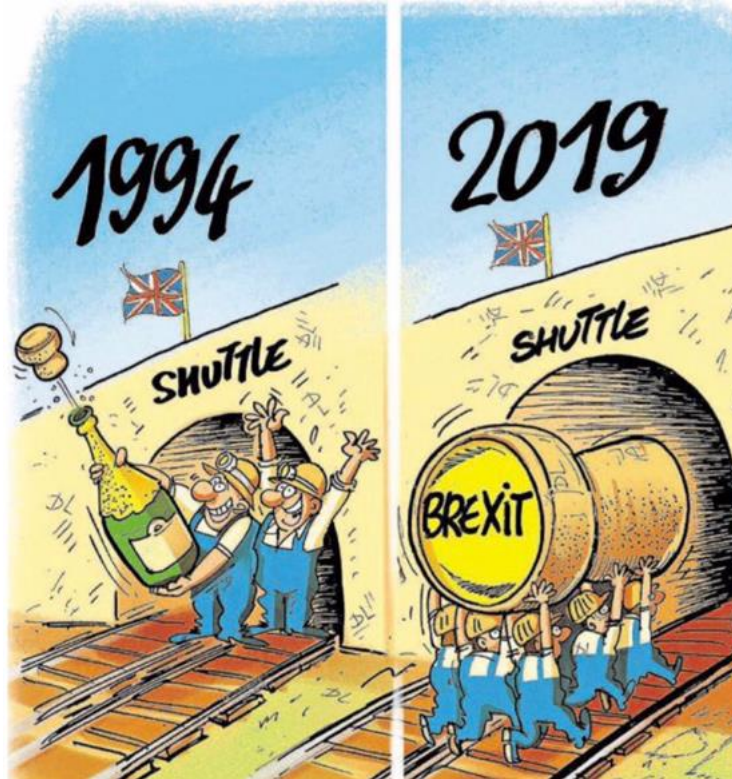
BSI and Brexit

- BSI Statement

- Following the triggering of Article 50, BSI will continue to help organizations achieve their goals as we have done for the past 116 years.

  For BSI it is business as usual, BSI will remain a full member and influential participant in the single European Standards system as well as an EU Notified Body. BSI will continue to play an important role in helping both British and overseas firms demonstrate product conformity.

  As negotiations progress and our discussions with the UK government and other relevant authorities evolve, we will continue to keep you informed on progress on both this page and other communications

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BSI and Brexit

- **"Brexit and standards Position statement February 2018" lists 8 key principles:**
1. Standards provide a passport to trade.
2. The European standards system has simplified the market structure in Europe through the use of the single national standard model across 34 countries in the region.
3. The European standards system is neither owned by nor is it an agency of the European Union.
4. The UK has significant influence in the development of European standards
5. Maintaining full UK membership of CEN and CENELEC is important to the success of business in Europe post-Brexit.
6. Maintaining full CEN and CENELEC membership also brings benefits to consumers and other public interest groups.
7. BSI must therefore continue as a full member of CEN and CENELEC post-Brexit.
8. Standards will provide a key element underpinning future free trade agreements between the UK and non-EU countries.

BSI and Brexit

Further Information from the BSI website:

- https://www.bsigroup.com/en-GB/about-bsi/media-centre/BSI-and-Brexit/

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