

UK-led international standards for BIM

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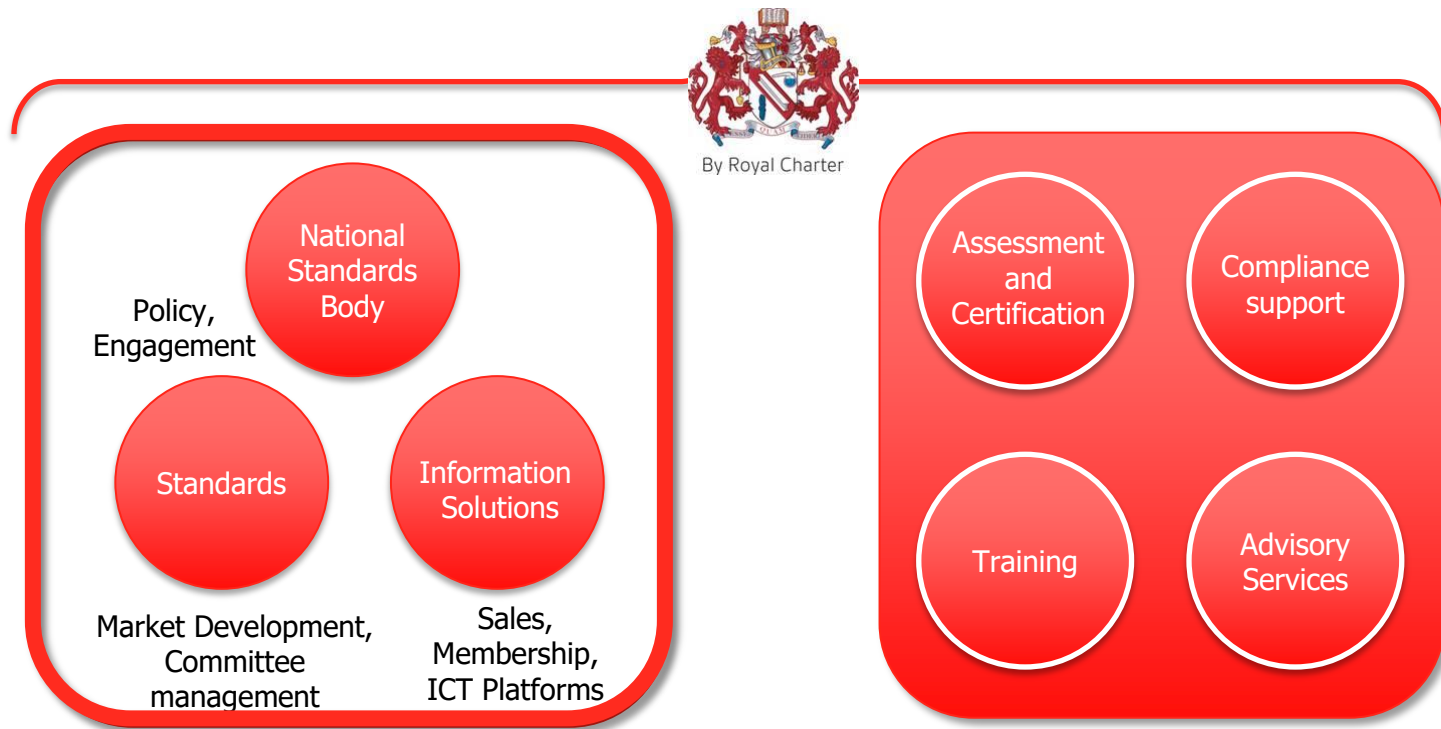
Digital Transformation Standards Manager –
Built Environment



By Royal Charter



BSI Group structure



The international and European standards bodies

ISO

(International Organization for Standardization)
164 National Standards Body members globally

IEC

(International Electrotechnical Commission)
80 members (National Committees)
and 80 affiliates globally

ITU

(International Telecommunications Union)
Agency of the UN. Members are national
governments and industry



Department
for Culture
Media & Sport

(UK
member)

bsi.

CEN

(European Committee for Standardization)

CENELEC

(European Committee for Electrotechnical
Standardization)

CEN & CENELEC have 33 member countries
(EU ×28, EFTA ×3, FYROM and Turkey).
24 countries including the UK have common
members of both CEN and CENELEC.

ETSI (European Telecommunications Standards
Institute)

Industry, government and NSB members



The evolution of standards

Product Specification Standards

Most common standards

- Construction standards
- Steel specifications
- Consumer and electrical products
- Personal safety equipment

Remain relevant today driving **interoperability** and **innovation** in areas such as smart cities and regenerative medicine (e.g. stem cells)



Product Specification Standards

Founded 1901

Process Standards

BSI shaped the original standards for:

- Quality Management (ISO 9001)
- Environmental Management (ISO 14001)
- Health & Safety (OHSAS 18000)
- Business Continuity (ISO 22301)
- Sustainable Events (ISO 20121)



Business Process Standards

1950

Organisation Potential Standards

Key standards include:

- Anti-Bribery
- Social Responsibility ISO 26000
- Collaborative Business Relationships



Business Potential Standards

2000

Standards are made by people for people.

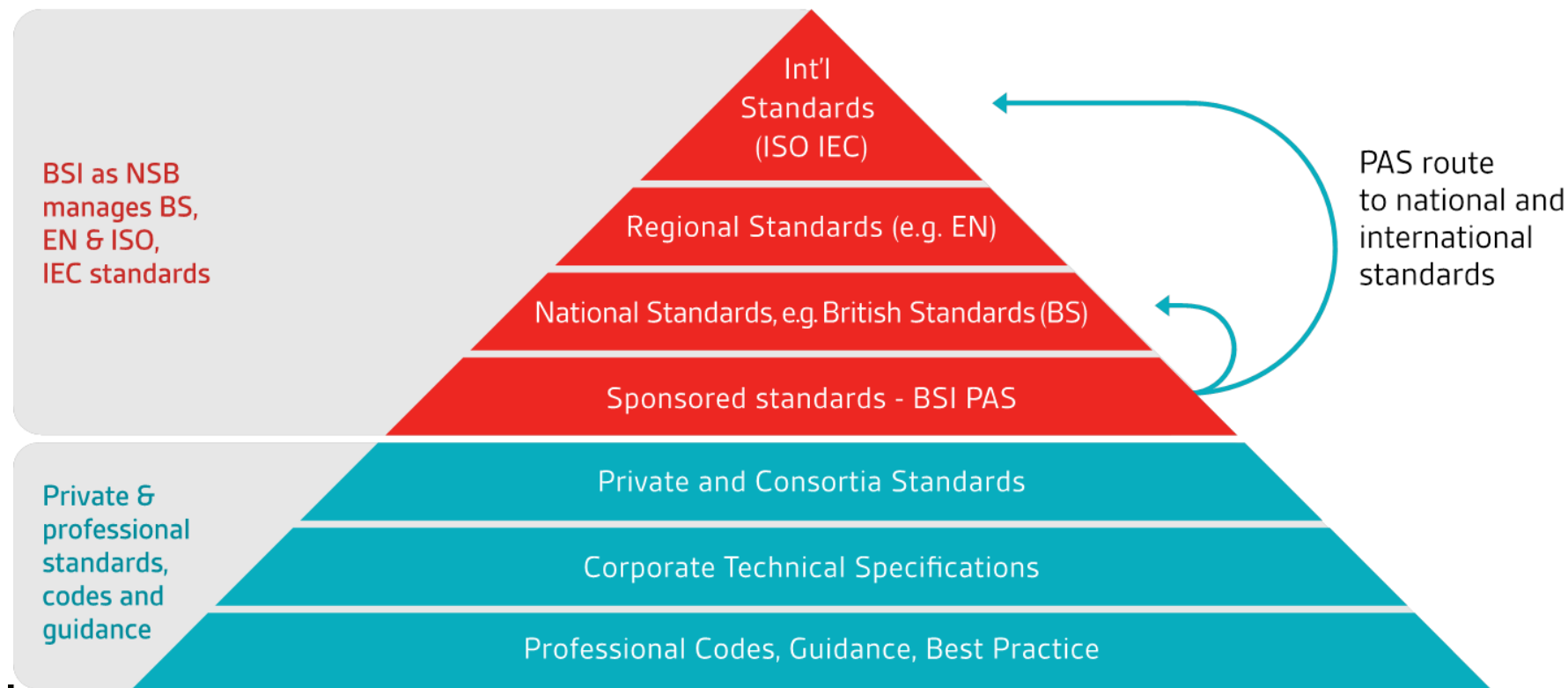
BSI publishes 2,500 and withdraws over 1,000 standards per year, supporting the single standard model wherever possible.

This maintains a coherent, consistent body of knowledge for the entire sector.

BSI is a neutral facilitator for industry experts.

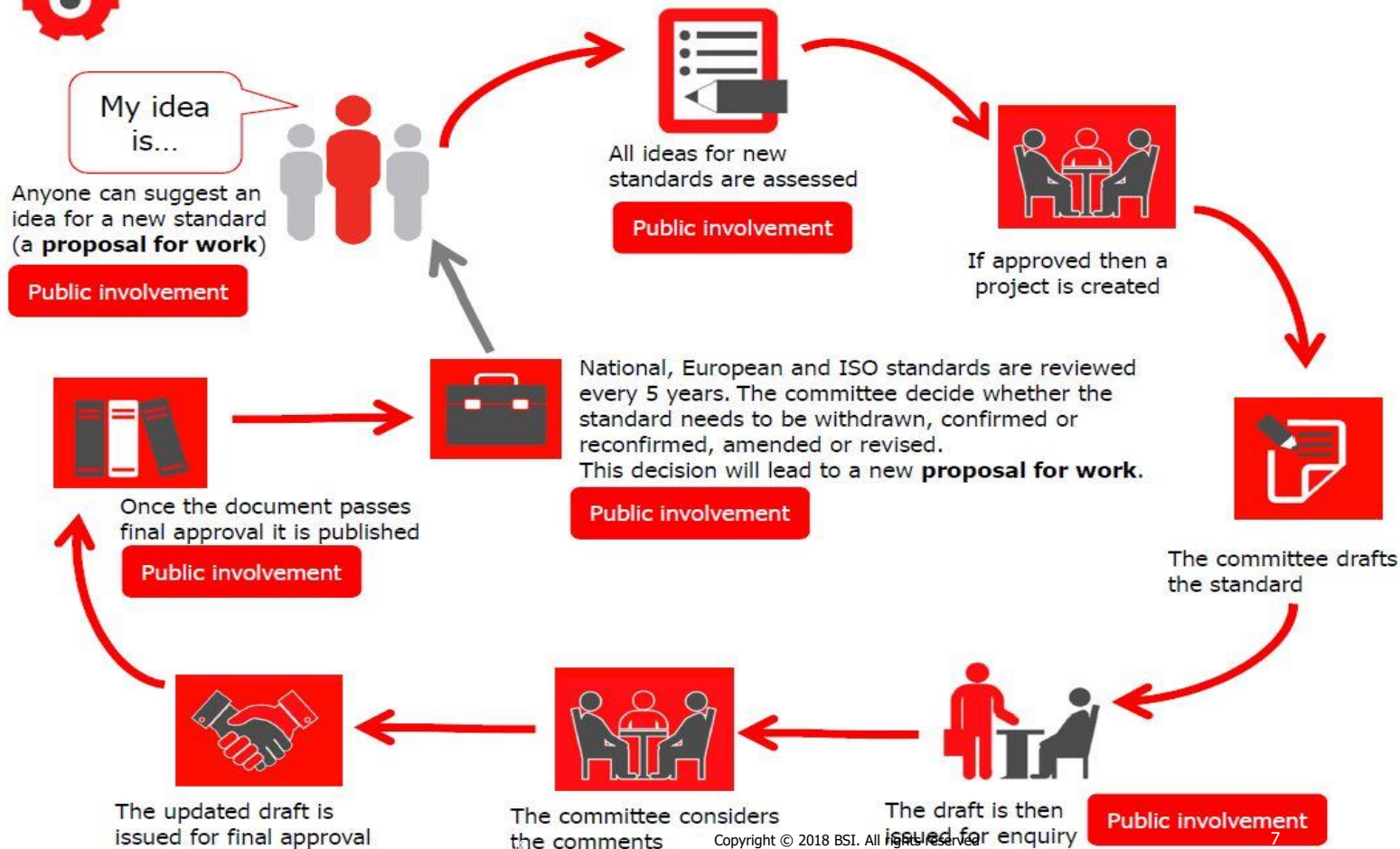
For BSI, standards are a consensus of what **good looks like.**

Establishing a single standards model

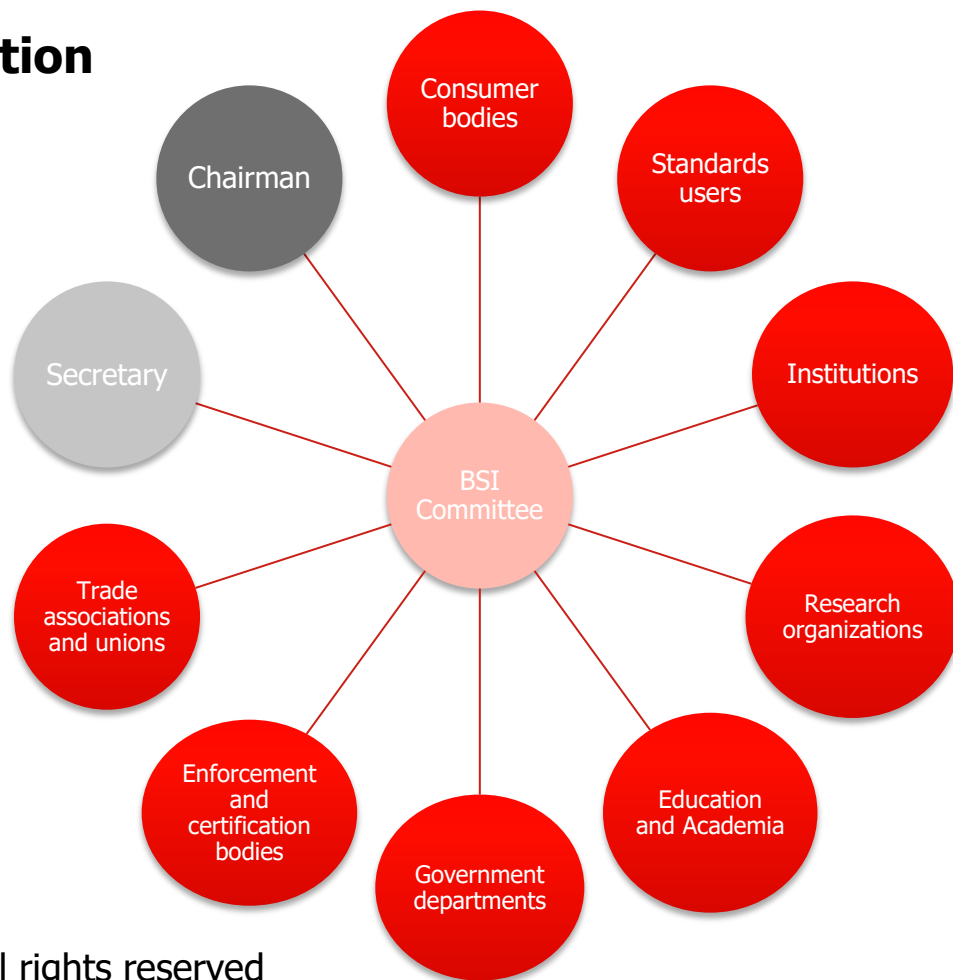




The Standards Making Process



Committee composition



Standards and regulations

Standards

- Technical requirements
- Written by industry technical experts
- Voluntary, market-led
- Non-proprietary
- Open public consultation
- Maintained and reviewed

Regulations

- Legal requirements
- Written by lawyers for Government



UK approach to Building Information Modelling (BIM) standardization



UK Market Driver



From April 2016, all HM Government construction MUST be carried out using **BIM Level 2**:

"Government will require fully collaborative 3D BIM (with all project and asset information, documentation and data being electronic) as a minimum by 2016."

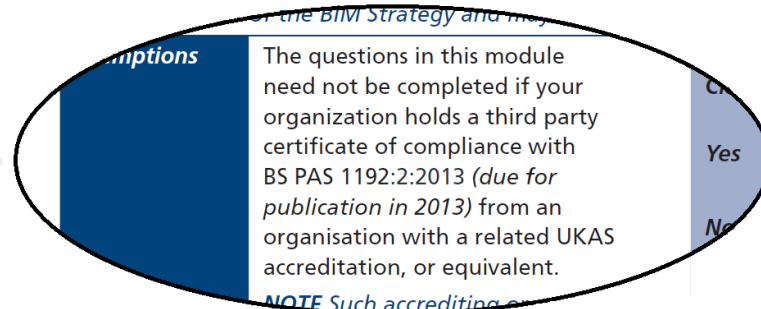
The way in which BIM readiness is judged is through a pre-tender pre-qualification questionnaire (PQQ): PAS 91 (Table 8)

Table 8 - Optional Question Module Q4: Building information modelling, policy and capability

NOTE: This will be used by the UK Government procurement process. The questions in this module need not be completed if your organisation holds a third party certificate of compliance with BS PAS 1192:2:2013 (due for publication in 2013) from an organisation with a related UKAS accreditation, or equivalent.

NOTE: Such accrediting organisations will be required to have specific evidence of compliance with the requirements of the BIM Strategy and may be used by other clients adopting a similar path.

Questions	Yes	No	Comments
Q. No. 1: Do you have the capability of working with a project using a "Common Data Environment" as described in PAS 1192:2:2013?	<input type="checkbox"/>	<input type="checkbox"/>	
Q. No. 2: Do you have documented policy, systems and procedures to achieve "Level 2 BIM" capability as defined in the government's BIM Strategy?	<input type="checkbox"/>	<input type="checkbox"/>	

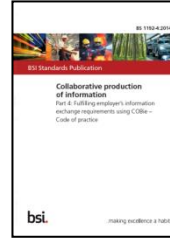
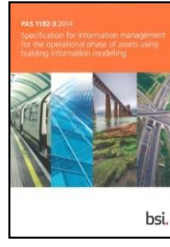
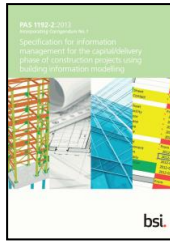
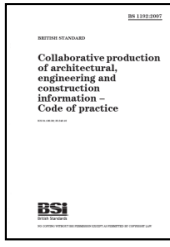
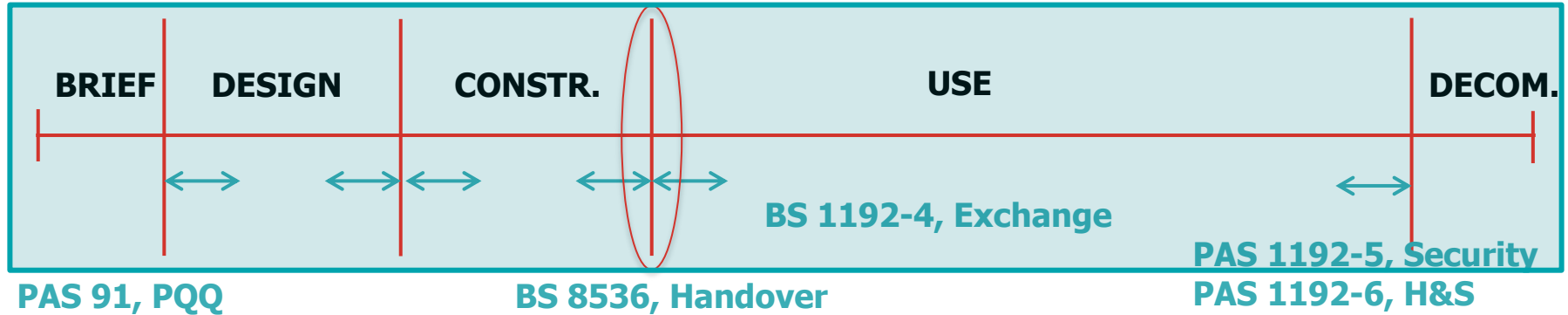


Applying BIM throughout the asset lifecycle

BS 1192, Principles

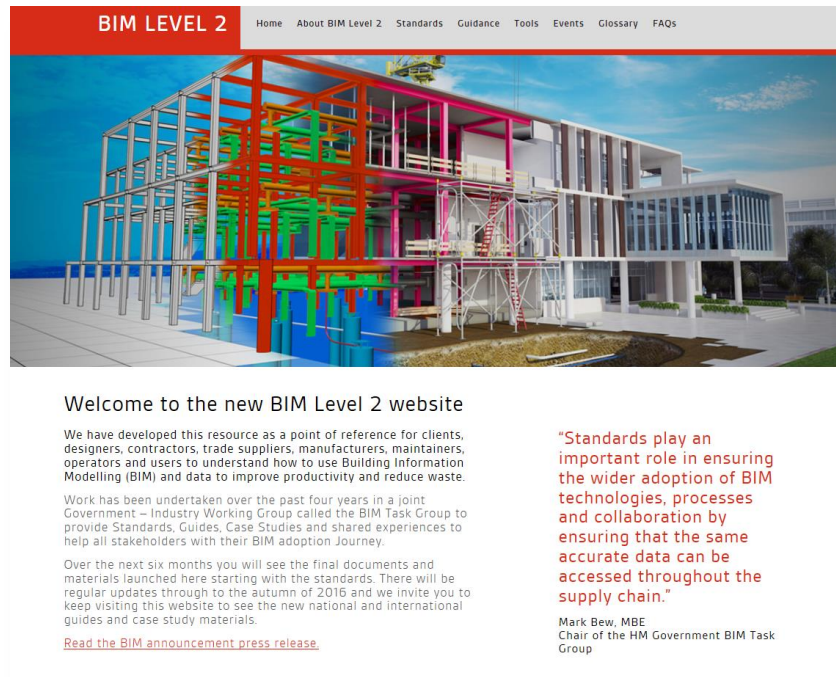
PAS 1192-2, CAPEX

PAS 1192-3, OPEX



Building Information Modelling (BIM)

- **Official BIM Level 2 Hub**, provides guidance aimed at the UK and international markets,
- International chapters to be translated into a number of languages, including Arabic and Chinese,
- **145,000+ copies have been downloaded** of the standards since 2013 (~20% from outside UK),
- Our standards are being utilised all over the globe including **UAE, Australia, Germany, Netherlands, Belgium, Spain, Romania, Russia, Chile**



Building Information Modelling - UK Transition to ISO standards



BIM LEVEL 2 WRAPPER



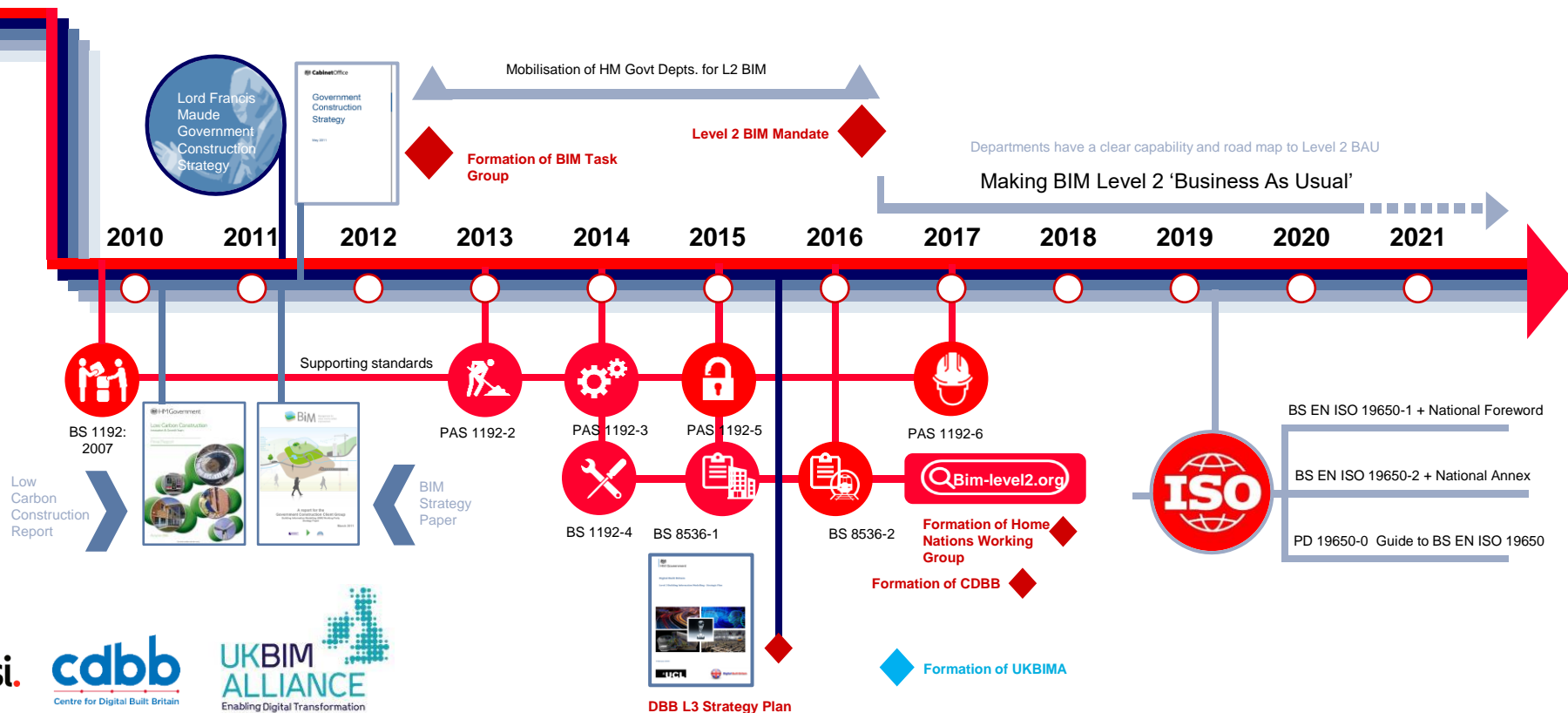
BASED UPON USING
ISO STANDARDS

“The working group recognises that at this early stage in the international maturity of BIM there is an opportunity for significant synergies in combined international effort in developing BIM policy, implementation and mobilisation strategies...”

A report for the Government Construction Client Group 2011

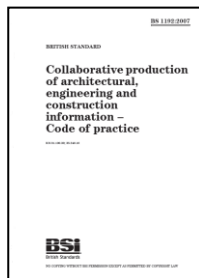
Timeline

16

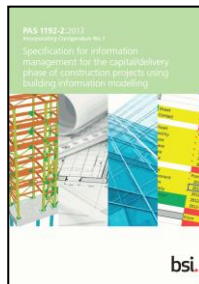


UK standards

Q1 2019



BS 1192

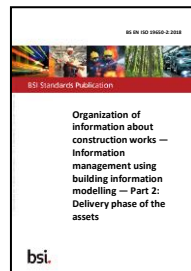
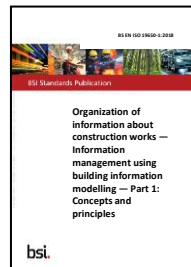


PAS 1192-2

BS EN ISO 19650-1 + National Foreword

BS EN ISO 19650-2 + National Annex

International standards



PD 19650-0 Guide to BS EN ISO 19650

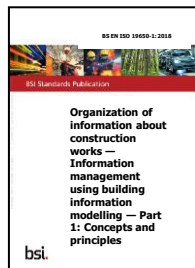


Q1 2019

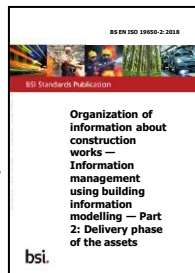
International standards

UK standards

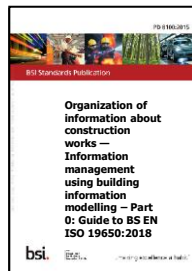
BS EN ISO
19650-1 +
National
Foreword



BS EN ISO
19650-2 +
National
Annex



PD 19650-0
Guide to BS EN
ISO 19650



PAS 1192-3:2014



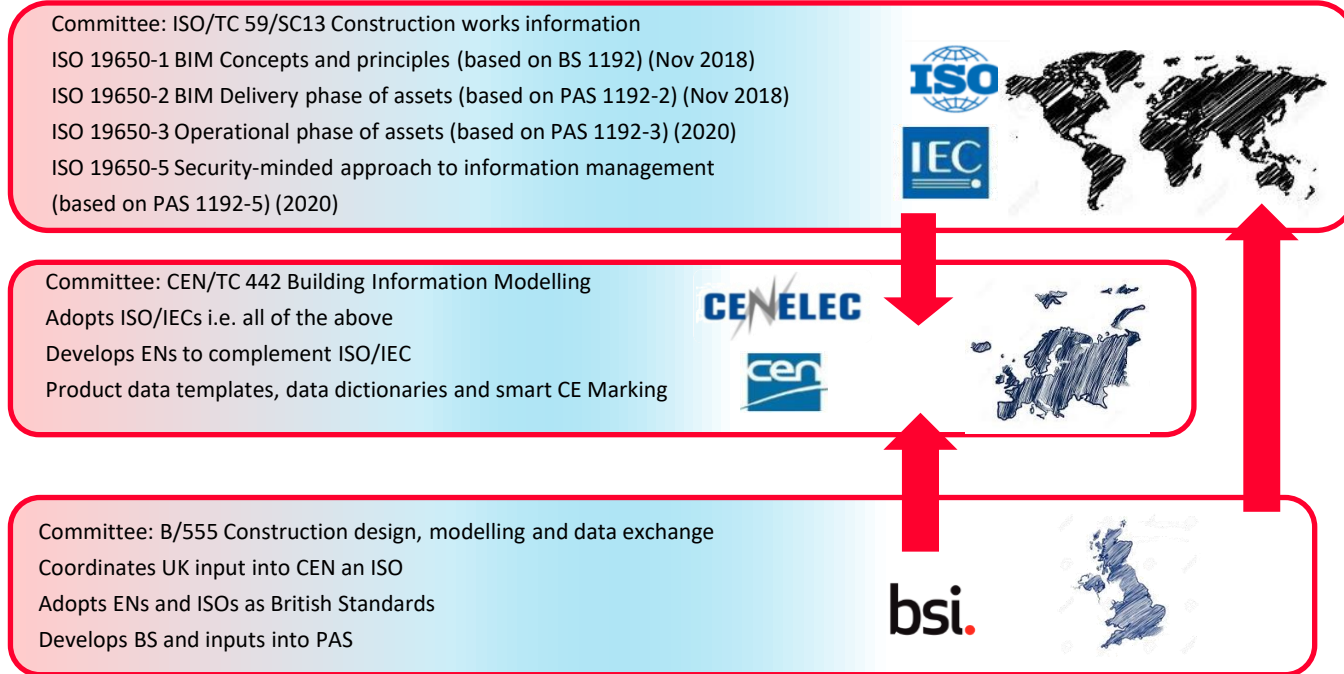
BS 1192-4:2014



PAS 1192-5:2015



BS 8536-1&2





Will the overall principles of BIM L2 stay the same?

Google Search

I'm Feeling Lucky

Any changes to current BIM policy of Home Nation countries?

Main changes between BIM L2 and its ISO equivalent

Any new roles or responsibilities that ISO introduces?

BS EN ISO 19650-1 and 2 are founded on UK's standards for information Management using BIM as per BS 1192:2007+A2:2016 and PAS 1192-2:2013. The principles remain as per these standards with terminology changes explained via UK annex.

Principles of BIM L2 remain the same following ISO publication. It is not thought there will be any policy changes. However, the Home Nation Working Group will be working with BSI and the ISO Convenor to understand the need for any changes to their programmes around standards, terminologies, BIM L2 templates and the like.

BS EN ISO 19650 is an internationalisation of the UK's BIM L2 & contains all the same principles and high-level requirements with specific UK content contained in our National Annex. ISO documents do look different, particularly in terminology they use (such as "appointing party" instead of employer")

No. Roles are called "functions" in the ISO, and this should help avoid the often-held view that new job-titles and team members are required, which was never intended to be the case.



We are committed to a co-ordinated approach to creating and communicating an international wrapper for UK BIM and ensuring a smooth transition in the integration of BS EN ISO 19650-1 and 2 within our suite. Collectively we will develop and champion one single set of guidance in a clear and concise manner to support industry understanding and message how to make the shift without confusion ■

BSI, CDBB, UKBIMA

About Us

BSI is the business standards company that enables organizations to turn standards of best practice into habits of excellence. For over a century BSI has championed what good looks like and driven best practice in organizations around the world; helping clients improve performance, manage risk, grow sustainably and ultimately be more resilient.

The Centre for Digital Built Britain is a partnership between the Department of Business, Energy & Industrial Strategy and the University of Cambridge to deliver a smart digital economy for infrastructure and construction for the future and transform the UK construction industry's approach to the way we plan, build, maintain and use our social and economic infrastructure.

The UK BIM Alliance represents and works with and for the Built Industry, facilitating the drive to digitally transform the Industry through education, leadership and focus. In an industry of over 4M people, where 95% work in SMEs or micro-SME', our mission is to ensure BIM becomes business as usual whilst at the same time, transforming and future proofing the way the industry works.

