



# Enabling collaborative business relationships through standards

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# Agenda

- BSI and the UK's National Standards Body (NSB)
- Policy context
- Collaborative business relationships (BS 11000, ISO 44001)
- Collaboration through Building Information Modelling (BIM)
- Benefits



# BSI: shaping standards for business, consumers and society

## What is BSI?

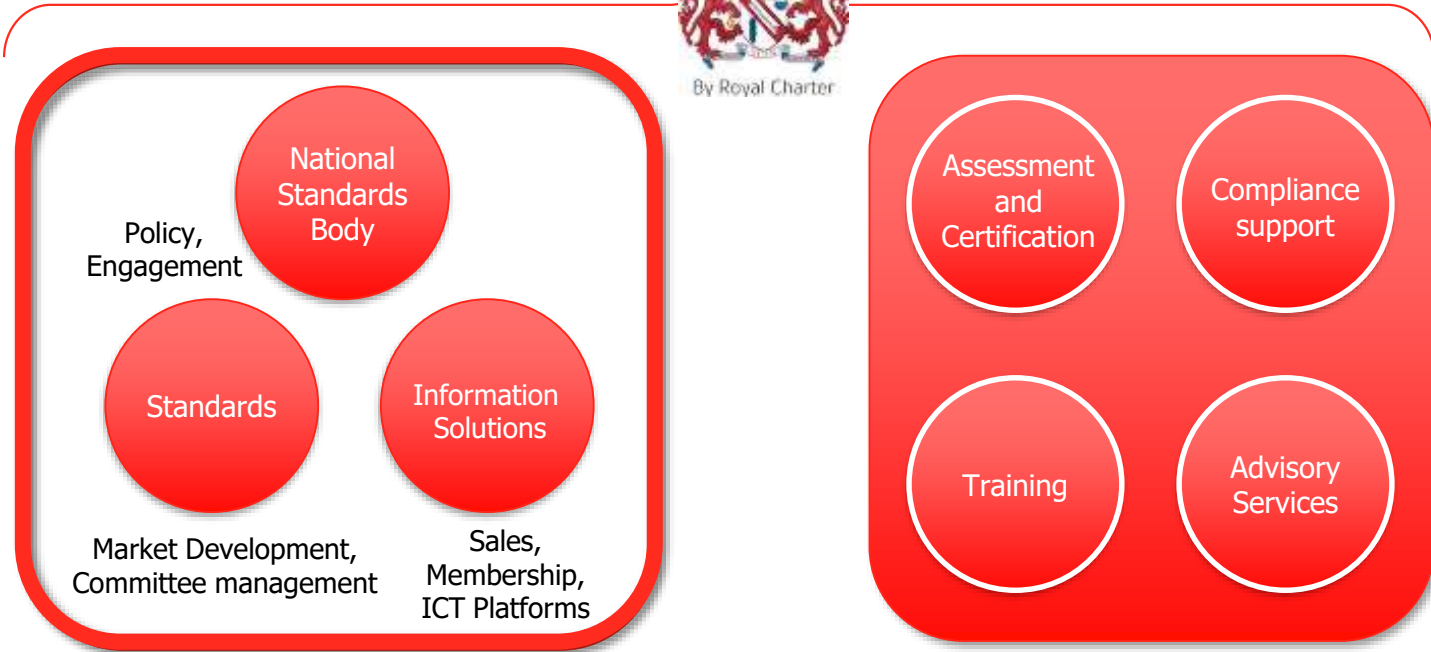
- The UK's National Standards Body (NSB)
- Private sector organization with NSB operations in public interest
  - Royal Charter company (no shareholders)
  - Appointed by Government as the NSB
- Stakeholder involvement: understand needs
  - Committee-led standards-making
  - Principles of consensus-building and public consultation
  - Consumer network and British Standards Society
- International perspective: ISO, IEC, CEN, CENELEC
- Global certification business and owner of Kitemark



# BSI Group structure



By Royal Charter



# 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

bsi.



Department  
for Culture  
Media & Sport

(BSI supports DCMS)

CEN

(European Committee for Standardization)

CENELEC

(European Committee for Electrotechnical  
Standardization)

CEN & CENELEC have 34 member countries  
(EU ×28, EFTA ×3, FYROM, Turkey and Serbia).  
25 countries including the UK have common  
members of both CEN and CENELEC.

ETSI (European Telecommunications Standards  
Institute)

Industry, government and NSB members



# Collaborative standards development

Employees	344
Committee members	11,300
Technical and Subcommittees	1,200
Live projects (ISO/IEC/CEN/CLC and national standards)	7,000
Publish/withdraw (standards per year)	2,500/1,500
International/European secretariats	200
International and European Standards work	95%



# 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

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1950

## Organisation Potential Standards

Key standards include:

- Anti-Bribery (ISO 37001)
- Social Responsibility (ISO 26000)
- Collaborative Business Relationships (ISO 44001)



Business Potential Standards

2000

# Harmonization - improving best practice through standardisation





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.

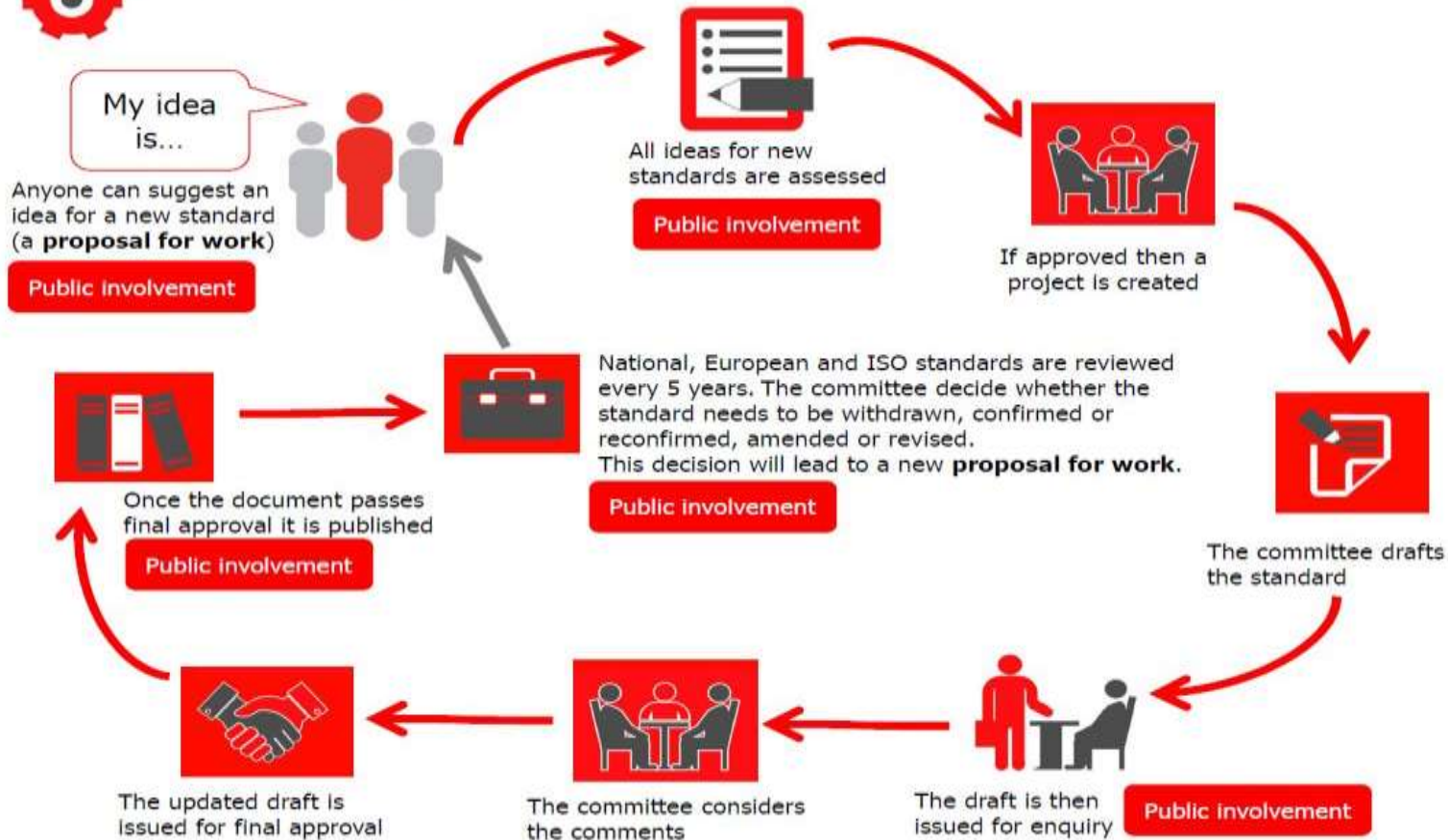
BSI is a neutral facilitator for industry experts.

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

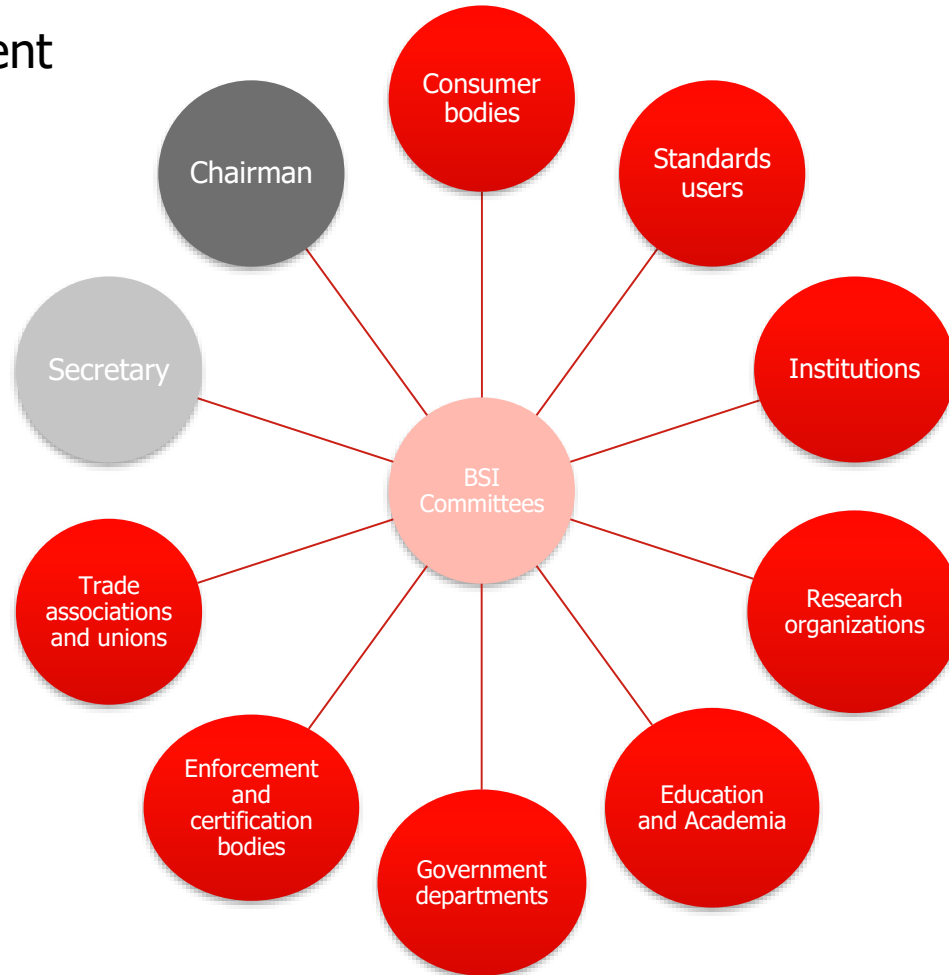


# The Standards Making Process

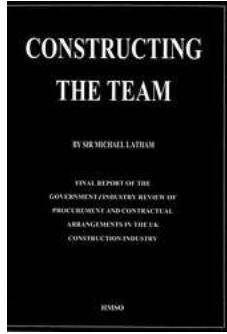
<https://standardsdevelopment.bsigroup.com/>



# Stakeholder engagement



# Policy context over last 20+ years...



Latham  
1995

Egan  
2001

GCS 2011

Industrial  
2013

Farmer  
2016

GCS 2016

IS 2017



# Construction 2025

## Lower costs

33%

reduction in the initial cost of construction and the whole life cost of built assets

## Faster delivery

50%

reduction in the overall time, from inception to completion, for newbuild and refurbished assets

## Lower emissions

50%

reduction in greenhouse gas emissions in the built environment

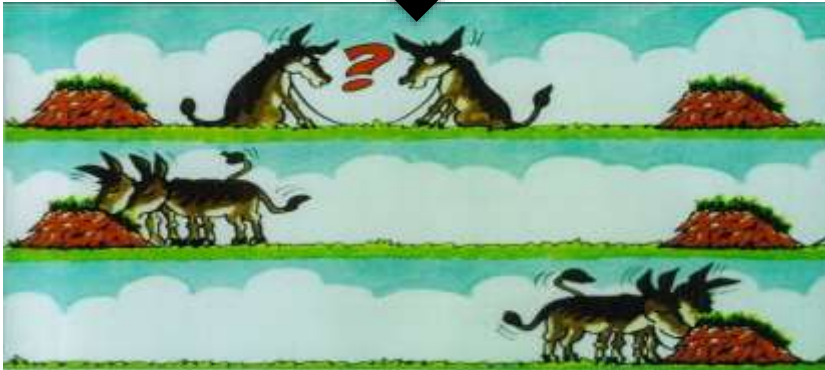
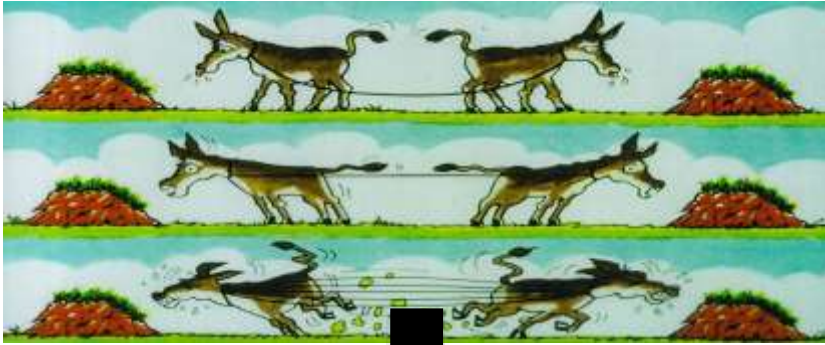
## Improvement in exports

50%

reduction in the trade gap between total exports and total imports for construction products and materials



# What is collaboration?



## Adversarial

- Lack of clarity
- Conflicting objectives
- Differing agendas
- Internal stress
- Wasted effort
- Failed outcomes

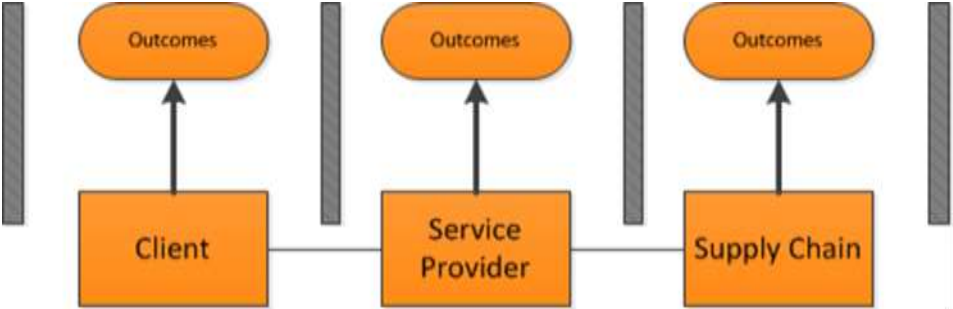
## Collaborative

- Clarity of purpose
- Joint objectives
- Complimentary skills
- Optimized resources
- Joint management
- Integrated processes
- Mutual benefit

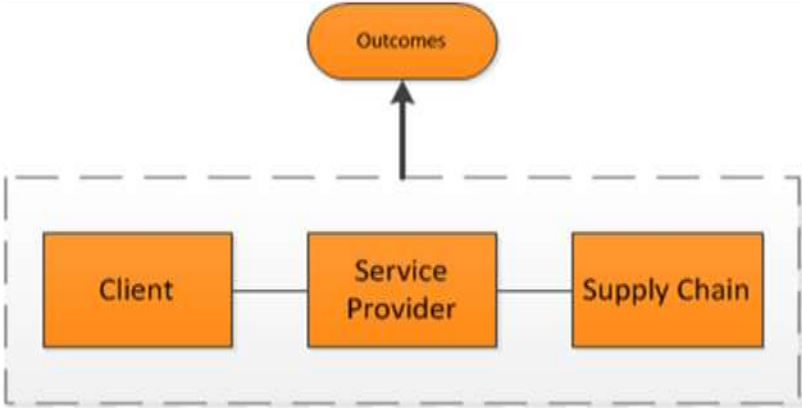




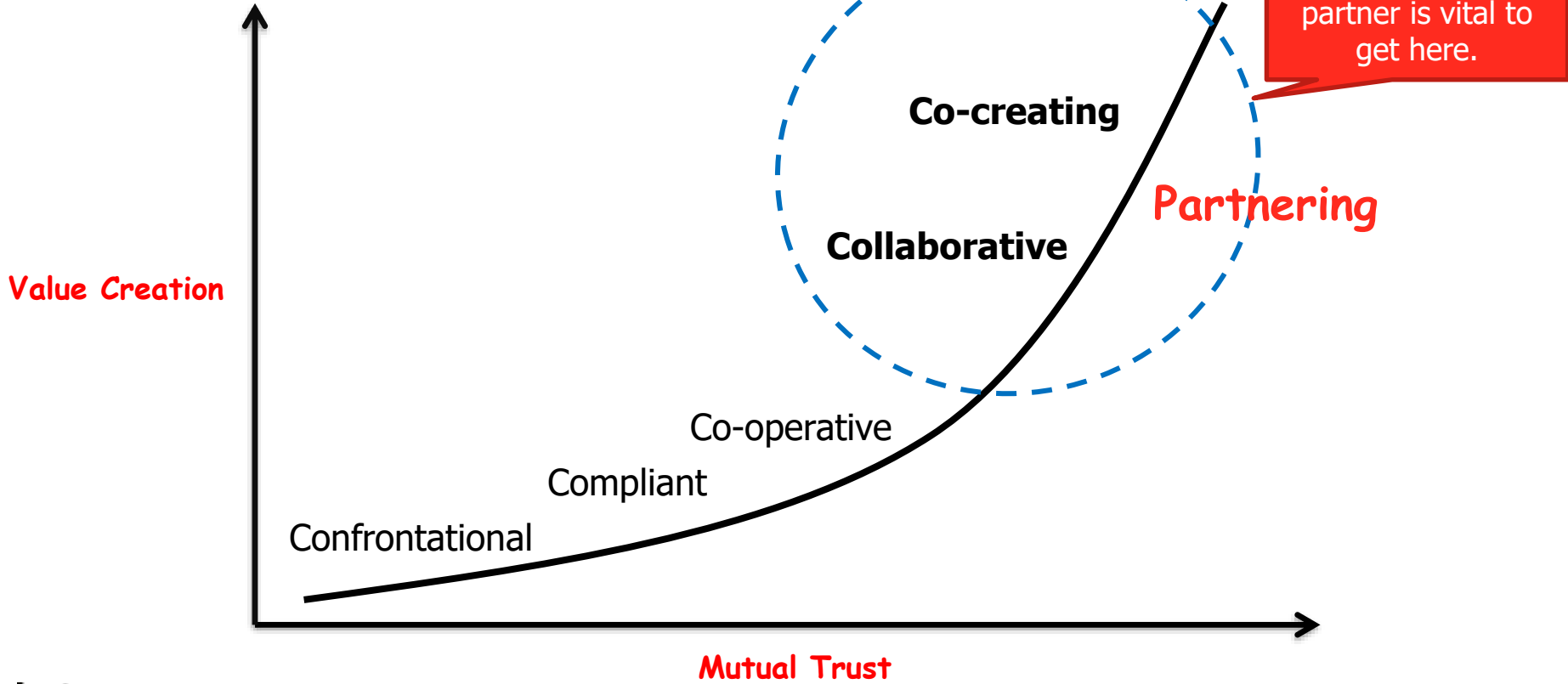
Move from



To This



# The value of relationships





# A standard for collaborative business relationships

- Initially driven by the need for better engagement for major infrastructure/defence projects
- Resulted in a number of thought leadership publications
- PAS 11000 (2006), BS 11000 (2010) and ISO 44001 (2017)
- The standard provides a framework to improve how organisations collaborate together to enhance partnerships
- To manage and understand key factors e.g. managing joint outcomes, knowledge, risk, partner selection, joint working and governance
- Leading to achieving cultural alignment, trust, behaviours
- Particularly relevant to private and public organizations of all sizes in long term contracts in areas such as: construction, transportation, defence and facilities management

2017 ISO 44001



# ISO 44001 key principles

- Aligned visions and values
- Aligning business objectives
- Transparent and joint governance
- Leadership
- Value creation
- Risk management
- Management
- Competence and behaviour
- Knowledge management
- Exit strategy
- Relationship management plan



# ISO 44001 and supply chain resilience

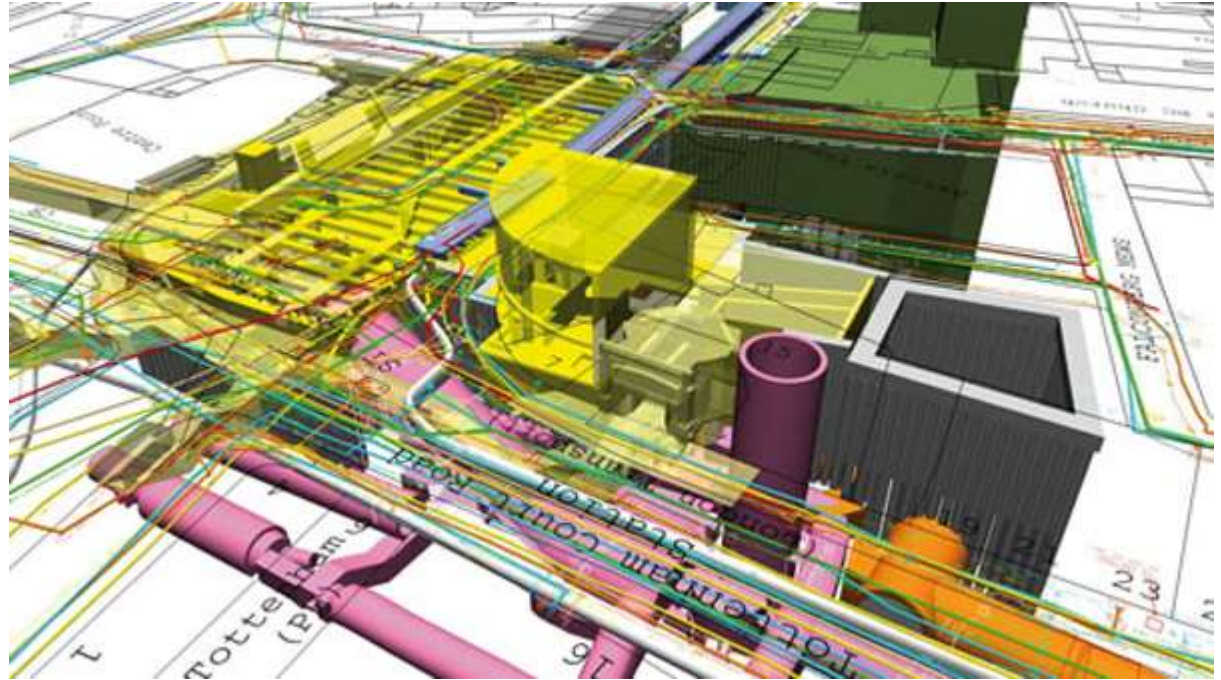
Standard provides a framework for.

- Identification, prioritisation and segmentation of relationships within a supply chain.
- Selection of partners based on culture, competence.
- Frameworks for knowledge sharing and associated rules of engagement.
- Working together including systems and structures.
- Joint management of risk.
- Encouraging innovation.
- Joint objectives linked to :-
  - Customer needs, expectations and desired outcomes.
  - Creation of value.



# Collaboration through Building Information Modelling (BIM)

- Multi-dimensional **digital** tool
- Visual model managing **asset data** from **inception to demolition**
- **Collaborative** 3D Model – the **creation, gathering and exchange of data** to all parties



# BIM, a framework for collaboration...

BIM defines a set of **processes** for the

- **Production**,
- **Management** and
- **Exchange**



of information generated in the design, construction and management phase of an asset (e.g. building or infrastructure).

The fundamental principle of BIM is,

**“start with the end in mind”**

At the **start** of a project it must be defined, for **EVERY** stage of the project:

**What** info. is required?

To what **level of detail** must the info. have?

Who is responsible for **managing** the info?

Who is **responsible** for producing the info?

How should the info. be **used**?

**When** is the info. required?

In what **format** must the info be in?

How should the info. be **named**?

How should the info. be **exchanged**?

**How should the info. be managed?**



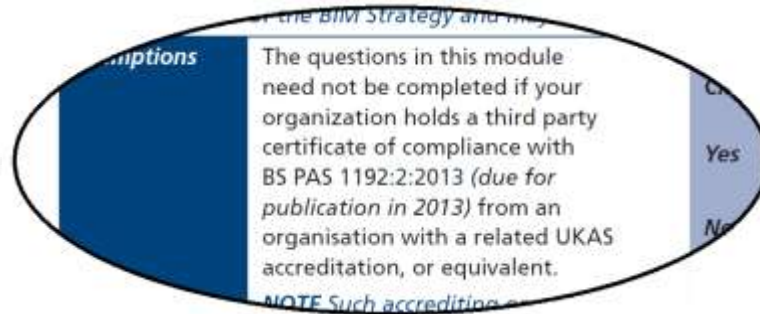
# UK Market Driver



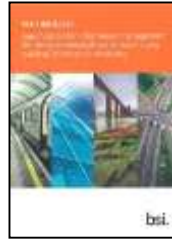
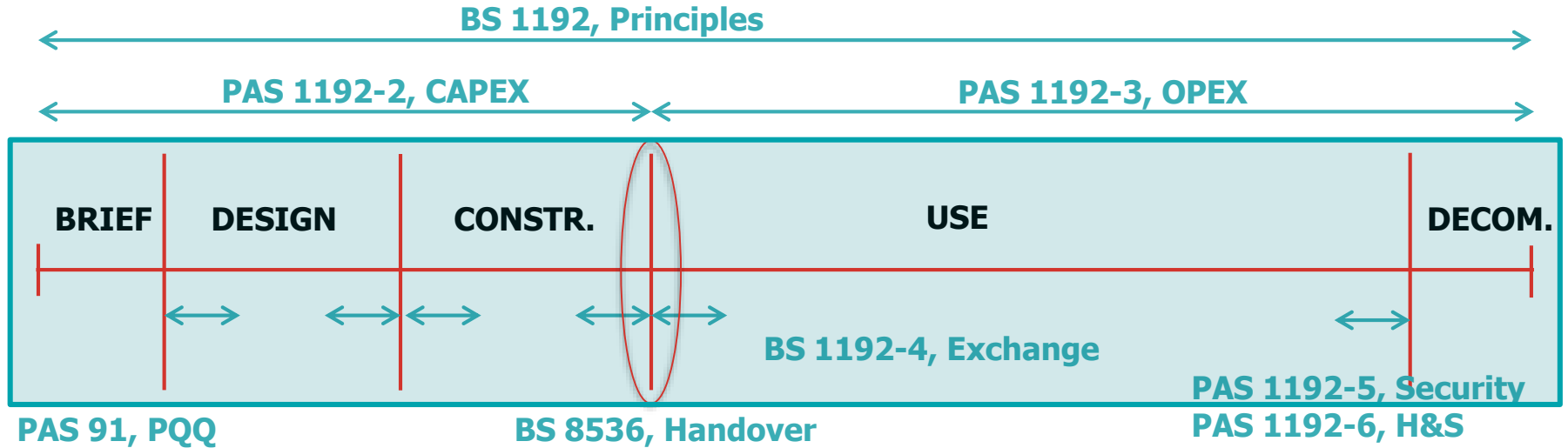
From April 2016, all HM Government construction MUST be carried out using **BIM Level 2**:

*"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)



# Supply chain collaboration throughout the asset lifecycle





- **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**

**BIM LEVEL 2** Home About BIM Level 2 Standards Guidance Tools Events Directory FAQs

Welcome to the new BIM Level 2 website

We have developed this resource as a point of reference for clients, designers, contractors, trade suppliers, manufacturers, maintainers, operators and users to understand how to use Building Information Modelling (BIM) and data to improve productivity and reduce waste.

Work has been undertaken over the past four years in a joint Government - Industry Working Group called the BIM Task Group to provide Standards, Guides, Case Studies and shared experiences to help all stakeholders with their BIM adoption journey.

Over the next six months you will see the final documents and materials launched here starting with the standards. There will be regular updates through to the autumn of 2016 and we invite you to keep visiting this website to see the new national and international guides and case study materials.

[Read the BIM announcement press release.](#)

**"Standards play an important role in ensuring the wider adoption of BIM technologies, processes and collaboration by ensuring that the same accurate data can be accessed throughout the supply chain."**

Mark Sew, MBE  
Chair of the HM Government BIM Task Group





# Collaboration Benefits Realization research by Warwick University



1. Better problem solving
2. Reputation
3. Customer satisfaction
4. Increased trust
5. Overall business performance
6. Innovation
7. Continuous improvement
8. Better supply chain relationships
9. New competence and skills development
10. Employee satisfaction
11. Customer retention
12. Lower operating costs



# Examples of collaborative benefits



- Improved performance
- Reduced costs
- Time
- Innovation

- Efficiencies
- Reduced waste
- Flexibility
- Sustainable relationships



# Examples of collaborative benefits



Motorway widening  
Collaborative Process  
Mapping – savings of £415k



The @one Alliance has already achieved significant savings including a 30% carbon reduction programme



Collaborative planning resulting in a 4 week saving equating to £400K on the LD's.



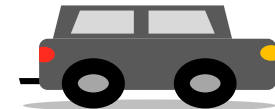
24 month programme delivered in 20 months through an alliance team



Collaborative Planning:  
(savings of £1.5m on a project valued at £80m)



Traffic management £600K savings in supplies and plant + 20% reduction in commissioning



# Transition from BS 11000 to ISO 44001

- We in BSI started early on transition from BS 11000
- Six Pilot clients already transitioned and certified to ISO 44001
- Target full transition all clients by March 2019
- Process in place
- Early adopters wanting transition quickly welcome



# Some thoughts on Collaborative Working...

Focus on the quality of the conversations, not just the paperwork or documentation

Remember, you earn trust its not given lightly

Focus on building the relationship and the benefits will follow

Look upon relationship building as an investment like any other

Don't make the standard fit your organisation - build a system that suits your organisation

The standard generally says "what" "how" is your call in the main

Don't be afraid to make tough decisions

Processes are important, procedures are helpful, people are key

***Have fun doing it and that will be your first collaborative reward***



**bsi.**

...making excellence a habit.™

