Quality: turning risk into opportunity

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Welcome

Anne Scorey

UK Managing Director, BSI

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Our purpose

By Royal Charter

Advisory Services

Compliance support

Assessment and Certification

Training

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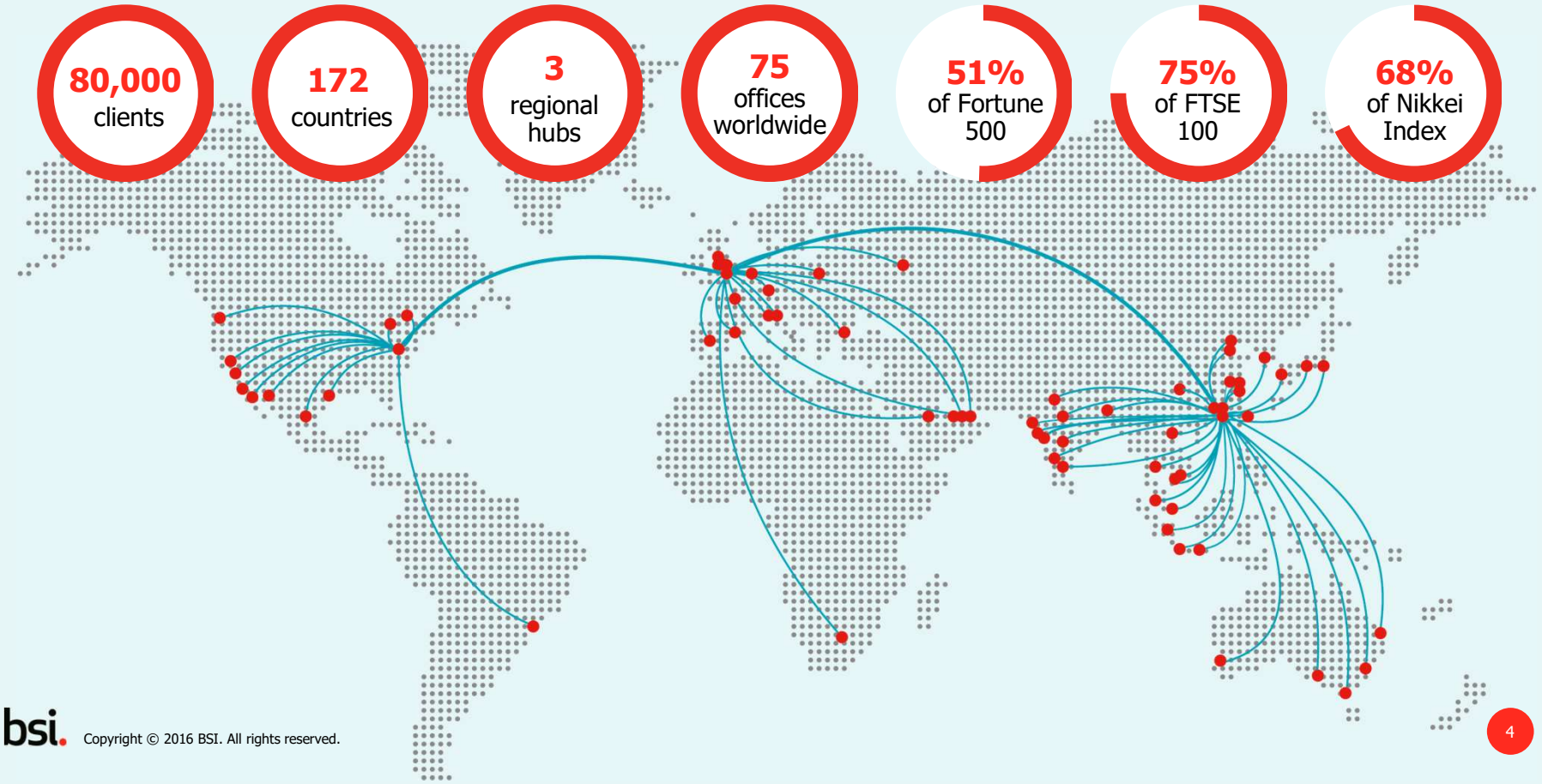
BSI: Supporting businesses globally



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59,000 different areas of collective best practice - created by industry, for industry

From tram tracks…

… to Building Information Modelling

Tea

Information Security

Connected and Autonomous Vehicles

Robot Ethics / Artificial Intelligence

Internet of Things

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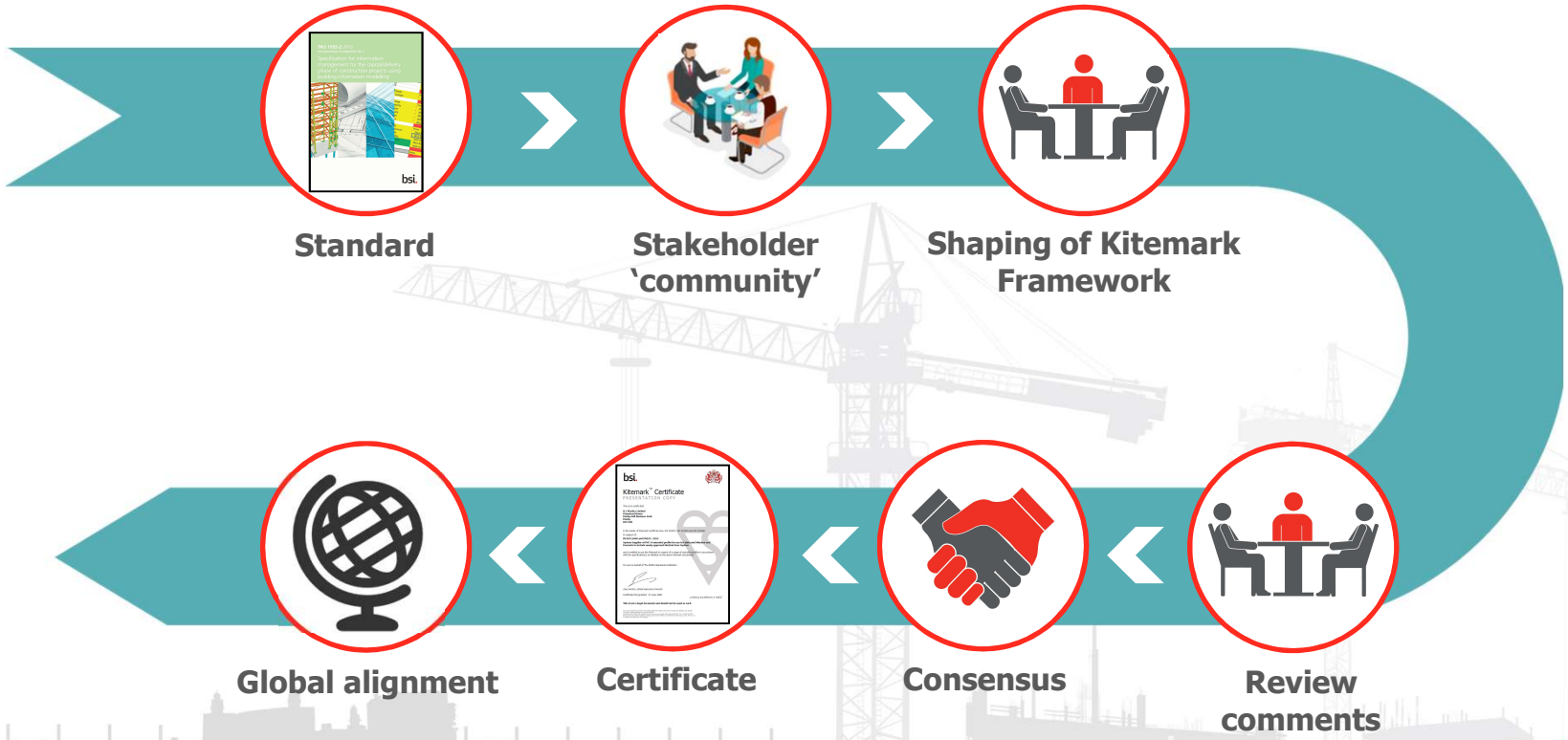
Building relevant solutions with industry

Built Environment community.

Clients • Designers • Constructors • Manufacturers • Operators



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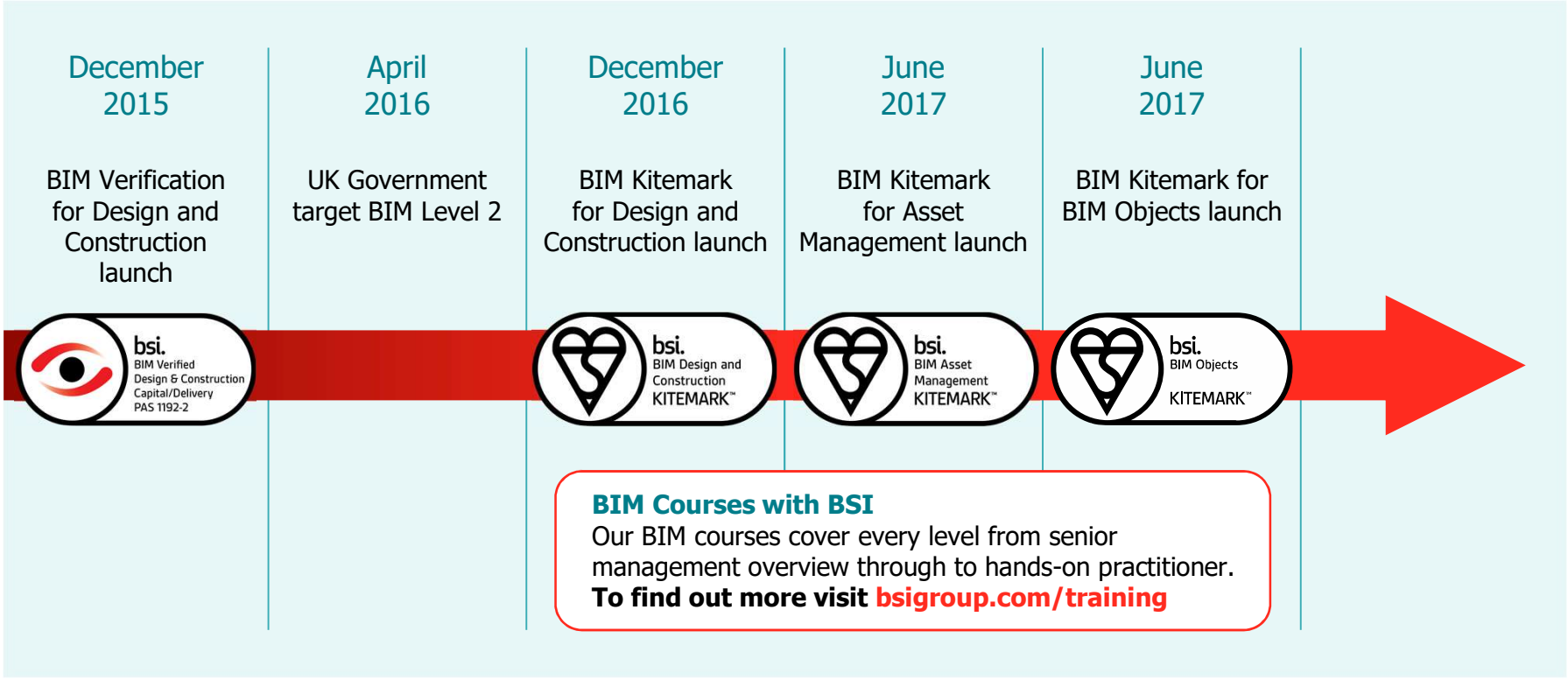
From digital innovation with BIM



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To the reduction of Carbon

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PAS 2080
Carbon Management
in Infrastructure

PAS 2080 Verification is designed to help companies reduce the volume of carbon used throughout a project, benefits include;

- Reduces costs
- Encourages innovation
- Promotes sustainable practices
- Manages whole life carbon

"PAS 2080 provides a common framework and guidance for the whole value chain to tackle the carbon challenge. It is essential for clients, designers, contractors and suppliers to work together if we are going to drive to drive a low carbon future."
Adam Crossley, Director of Environment

SKANSKA

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Organizational Resilience

Concept of different levels of '**resilience**' maturity

Emerging as a principle in academic areas over last 15 years

BS 65000
World's first Standard for **Organizational Resilience**

Designed by industry,

for industry

and backed by government

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2000 **2014** **2017**

Building communities

Built Environment community.

Clients • Designers • Constructors • Manufacturers • Operators

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ConSIG Introduction

Jon Adshead

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CQI
IRCA

Quality: turning risk into opportunity

CQI Construction Special Interest Group

Our Mission

The Chartered Quality Institute (CQI) is a global professional body advancing the practice of quality management in all sectors.

The Construction Special Interest Group (ConSIG) has been established as a representative group for quality professionals within the construction industry to advance quality and improvement in the construction industry.

The ConSIG vision is:

To advance quality and improvement in the construction industry.

Todays Agenda

ARRIVAL	9.30 am
INTRODUCTIONS	10.00 am
SESSION 1 Addressing RISK of errors through sharing knowledge	10.15 am
MORNING BREAK	11.15 am
SESSION 2 Standards as a RISK Management Framework	11.45 am
LUNCH	12.30 pm
SESSION 3 The consequence from not managing quality RISK	13.30 pm
AFTERNOON BREAK	14.30 pm
PANEL SESSION	14.45 pm
CONCLUSION	15.25 pm
FINISH	15.30 pm

SESSION 1

Addressing RISK of errors through sharing of knowledge

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Get It Right Initiative
Attitude, Culture, Leadership & Planning
The Cost of NOT Sharing Knowledge
CQI
25th September 2018
getitright.uk.com @GIRI_UK

Get it Right
or
Is it Right?

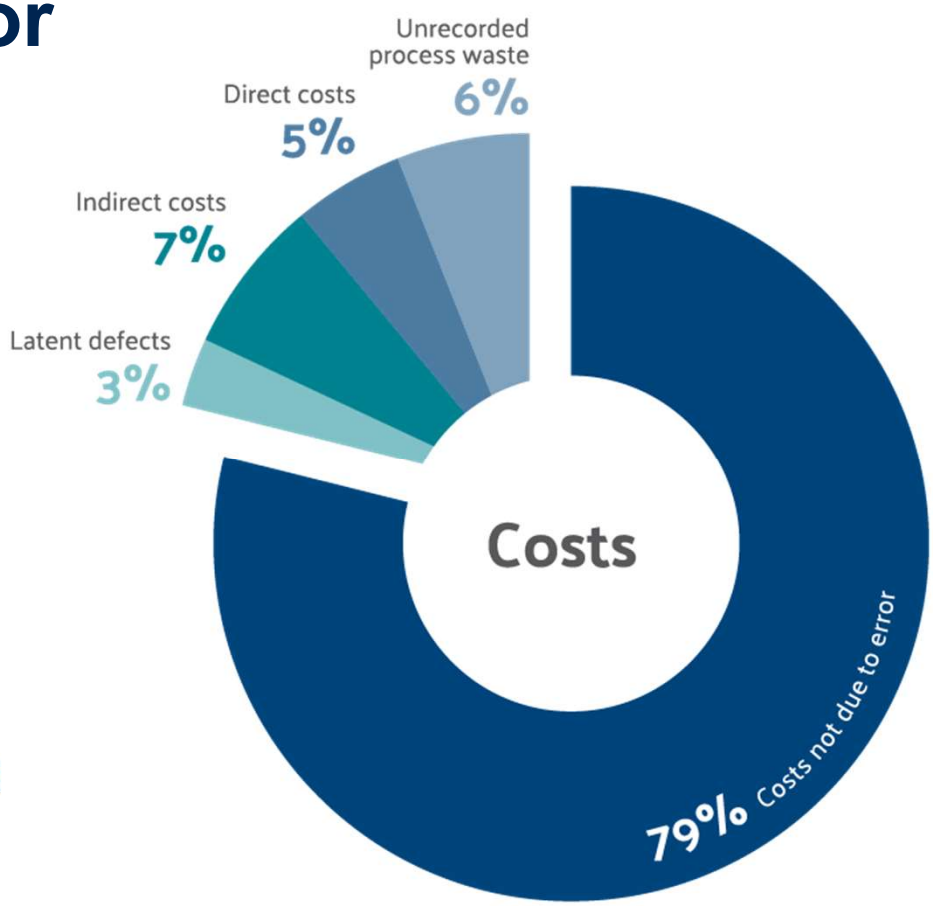
Wasted Spend on error

Direct costs of error (5%)
resources used in correcting an error

Indirect costs of error (7%)
Resources used in follow on work and costs to other parties

Unrecorded process waste (6%)
Errors occur, are identified and corrected without being recorded

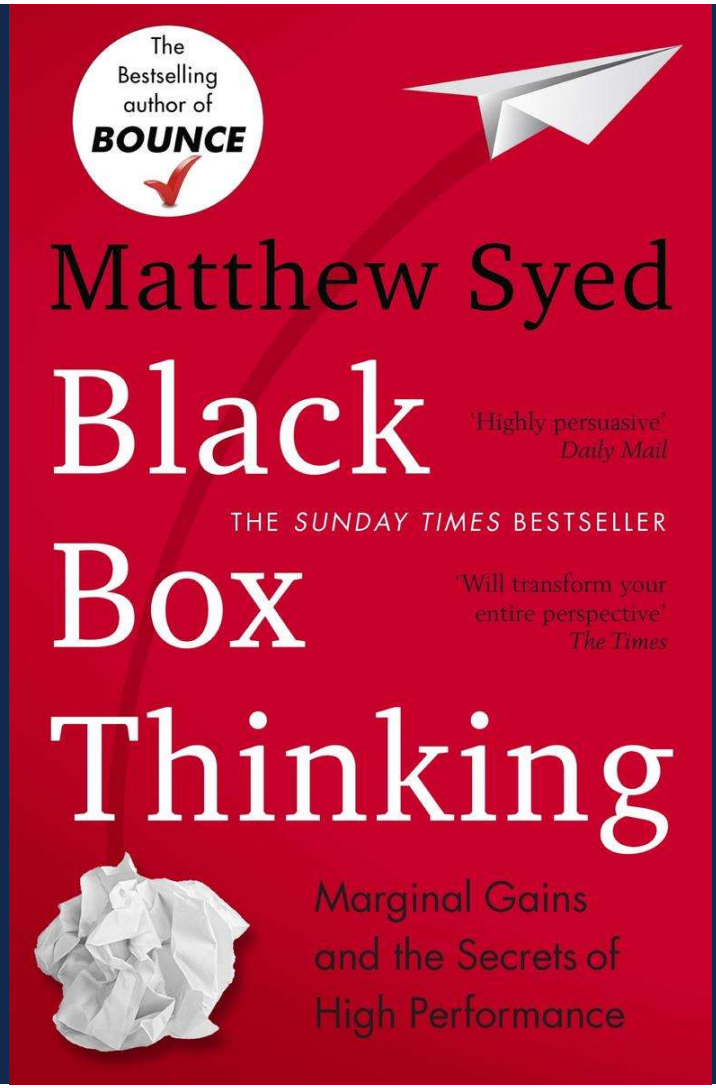
Latent defects (3%)
remain in place after client acceptance and any 'defects liability period' has passed




£22bn a year.
Get It Right Initiative

Root causes of error

- Inadequate planning (from task through to project level)
- Late design changes
- Poorly communicated design information
- Poor culture in relation to quality
- Poorly coordinated and incorrect design information
- Inadequate attention paid in the design to construction
- Excessive commercial (financial and time) pressures
- Poor interface management and design
- Ineffective communication between team members
- Inadequate supervisory skills



Get It Right Initiative

British Airways Flight 38 Beijing to London

January 2008

“Everything we know in aviation, every rule in the rule book, every procedure we have, we know because someone somewhere died. We have purchased at great cost, lessons literally bought with blood that we have to preserve as institutional knowledge and pass on to succeeding generations. We cannot have the moral failure of forgetting these lessons and have to relearn them”

Captain Sullenberger US Airways Flight 1549 15th January 2009

The UK Construction Industry needs to act and behave like the Aeronautical Industry

GIRI Aims and Objectives

1. A Skills Development Programme
2. A campaign to change and align attitudes
3. Improve management processes and systems
4. Improve construction technology and techniques

Avoidable Errors Workshop

Get It Right Initiative

CITB Productivity Flexible Fund Works

- £314,176 of funding from CITB
- £158,176 Contribution in Kind from consortium members
- All works to be facilitated through GIRI over 18 months (six 3-month development sessions)

Get It Right Initiative Members – July 2018

Webinars in the UK and Ireland with audiences also in the USA and Australia.

Seminars and Workshops

Social Media

Initial Recommendations

Insufficient Investment in Design

There have been widespread reports of installed M&E work in stations and tunnels having to be ripped out and replaced because of incorrect or incomplete initial designs

Building Magazine 13th September 2018

Technology Working Group:
Harnessing technology to eliminate error

Offsite Manufacture
Standardisation
Improved Construction process
Error-minimising Construction Components
+ Automation
Application for Research Grant into the barriers in adopting Digital Engineering/BIM


Get It Right Initiative
Attitude, Culture, Leadership & Planning
Thank You
getitright.uk.com @GIRI_UK

Get It Right Initiative Ltd

- Sharing the information of my Company's defects with its competitors is the only way to improve the Industry's performance in reducing error? Y/N
- Investment in up front design reduces change and significantly reduces outturn project costs? Y/N
- We need to establish a working group to look at a cross industry way of measuring performance in delivering quality? Y/N
- Reducing the amount of change on projects by putting more effort into ensuring that what the customer has asked for is what the customer actually needs will significantly reduce error? Y/N

Stopping Building Failures

and

Building in Quality

Nigel Ostime

25.09.18

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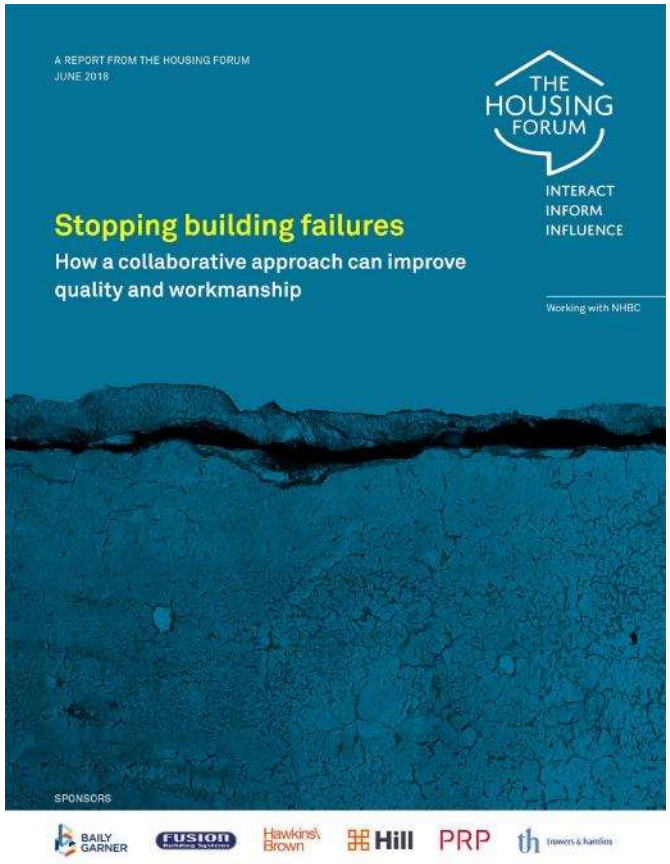

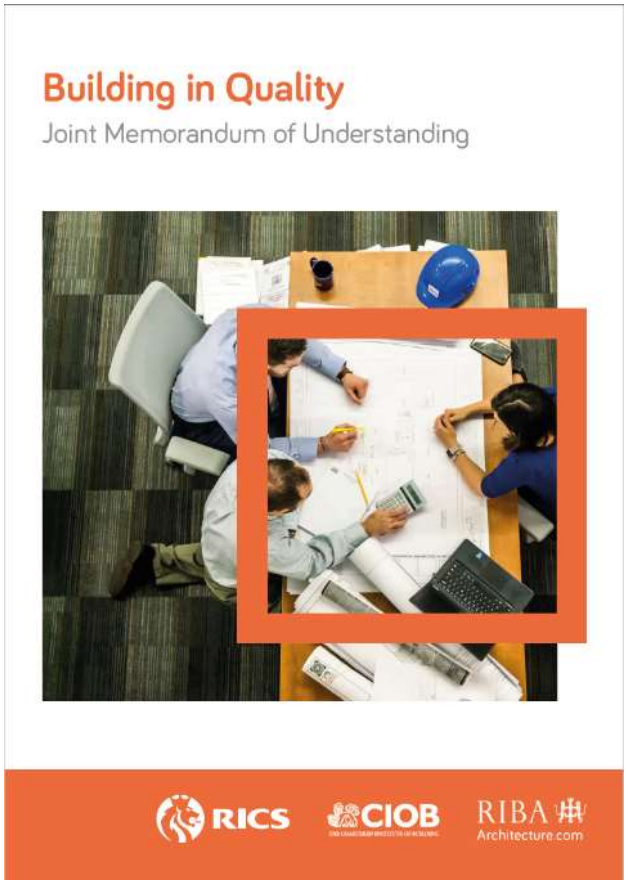

Stopping Building Failures

Our thrust for improvement is centred on three key areas:

Procuring for quality: (PART ONE, pages 8-23)

Time and money spent up front to establish the project pays dividends and in this section we explore how clients and their construction teams can better understand value and minimise costs over a lifetime, work with integrated teams to provide a golden thread of continuity and responsibility and ensure the tender and contract conditions can promote quality.

Harnessing innovation to prevent defects: (PART TWO, pages 24-29)

In this area, we look at how technologies like building information modelling (BIM) and the use of design for manufacture and assembly (DfMA) can help reduce defects on site, boost productivity and in the longer term improve productivity in the sector. Experience elsewhere in construction has demonstrated these practices improve accountability, drive collaboration, bring efficiencies and ultimately provide a digital asset, making operational management more effective.

Building defect-free homes: (PART THREE, pages 30-39)

Finding new and better ways to ensure site supervision, quality assurance and addressing skills shortages is essential for change and improvement. This includes a greater investment in quality inspection as well as the development of skills and pride in the job.

14 recommendations under three headings :

- **Procuring for quality**
- **Harnessing innovation**
- **Building defect-free homes**

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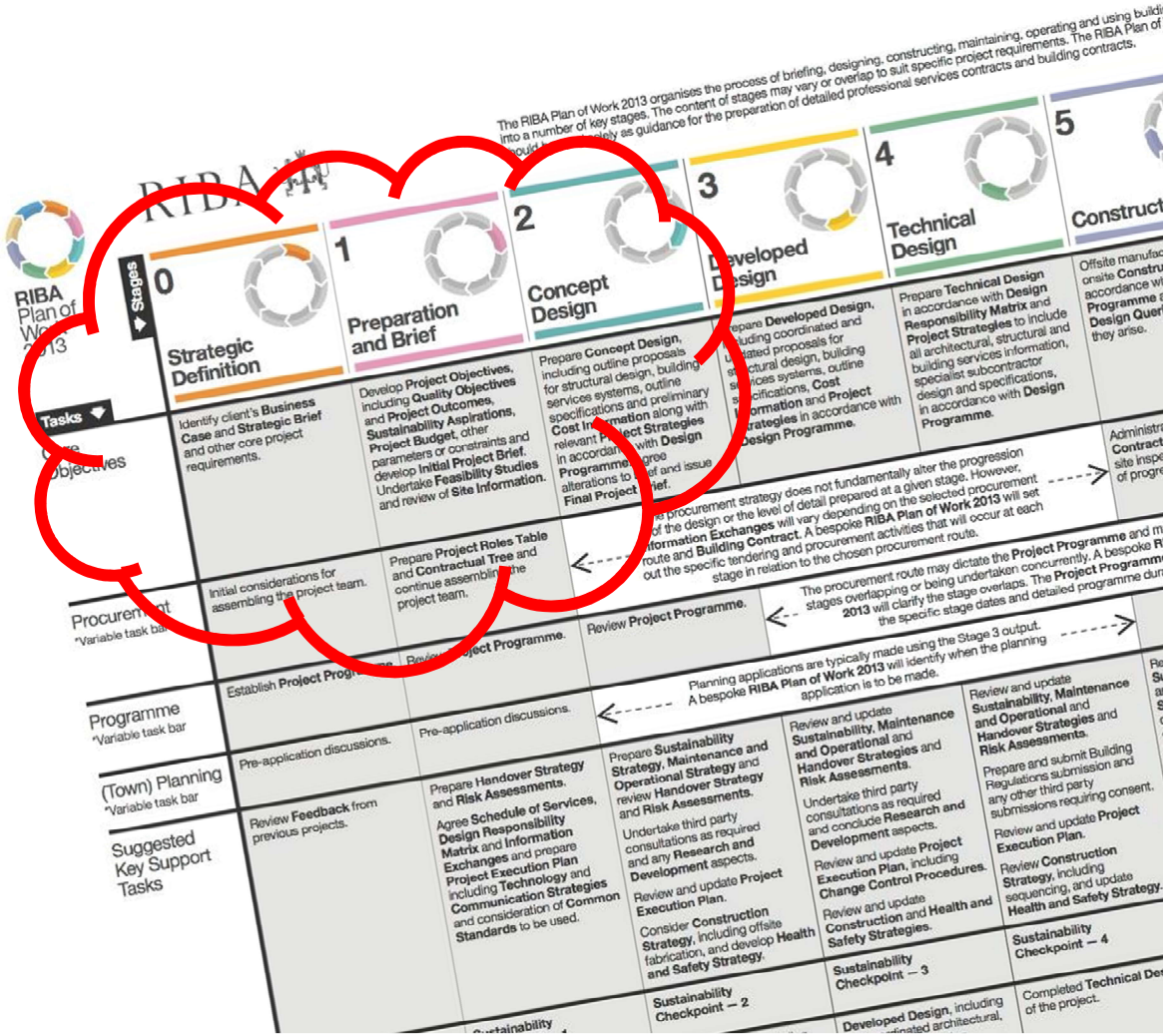
Procuring for quality

1. Project set up
2. Procurement
3. Collaboration
4. Integrated Project Insurance



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Procuring for quality

1. Project set up
2. Procurement
3. Collaboration
4. Integrated Project Insurance

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Procuring for quality

1. Project set up
2. Procurement
3. Collaboration
4. Integrated Project Insurance

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Harnessing innovation

5. Adoption of BIM
6. Adoption of DfMA

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Harnessing innovation

5. Adoption of BIM
6. Adoption of DfMA

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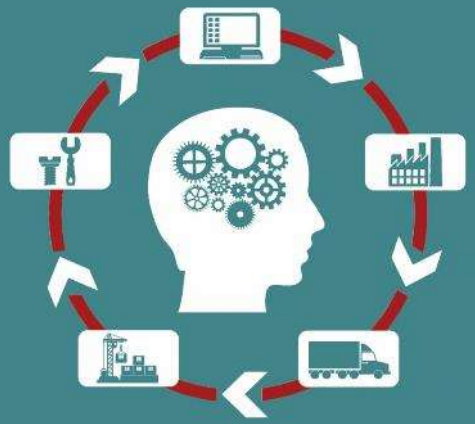
RIBA

RIBA Plan of Work 2013
Designing for Manufacture and Assembly



RIBA Plan of Work 2013

www.offsiteschool.com/DfMA

OFFSITE MANAGEMENT SCHOOL

Sustainability | Management | Offsite | BIM | Lean

OFFSITE

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Construction

About | How we help | Assess | Resources | Issues | Designers | Events

Home > UK > Offsite > Construction

Understanding offsite construction. . .

Use our FREE online assessment tool to benchmark your knowledge in DfMA, manufacturing, logistics and onsite assembly. Then access best in class learning resources to help you understand the world of offsite construction.

Assess your offsite knowledge

Design for manufacture & assembly

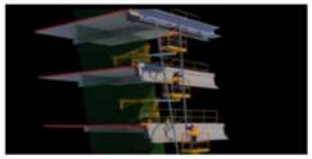
Offsite manufacturing

Logistics

Onsite assembly

Design for maintenance

B1M: World's largest timber building



The construction of Leadenhall

The benefits of building offsite

Building defect-free

7. Training for on-site inspection
8. Clerks of works
9. Technology to document quality
10. Selection criteria
11. Clarity of roles
12. Benchmarking
13. Licensing for operatives
14. Hold points

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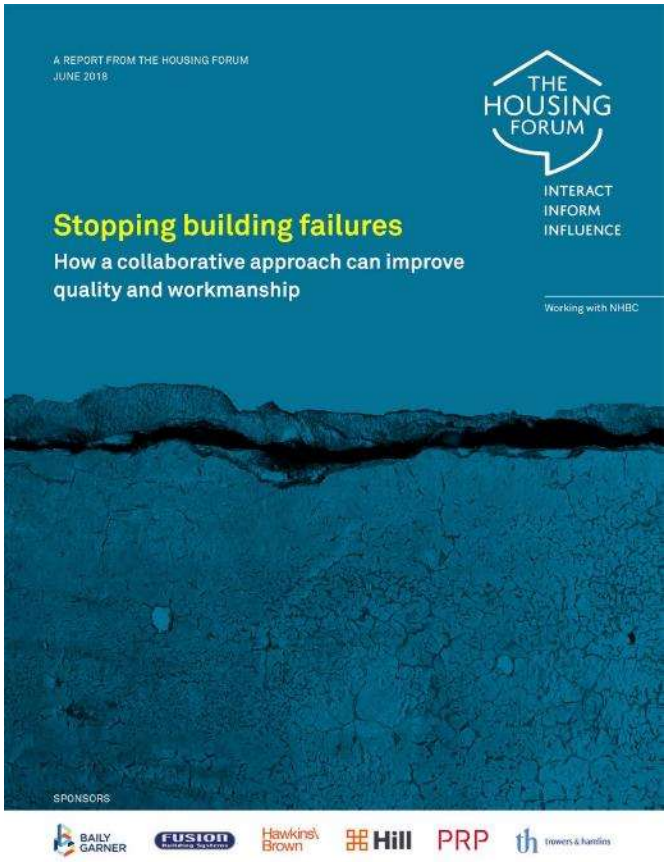
Key issues in the report

- Don’t start until you are ready
- Thorough briefing
- Understanding value
- Digital technology
- DfMA and MMC
- Build defect-free



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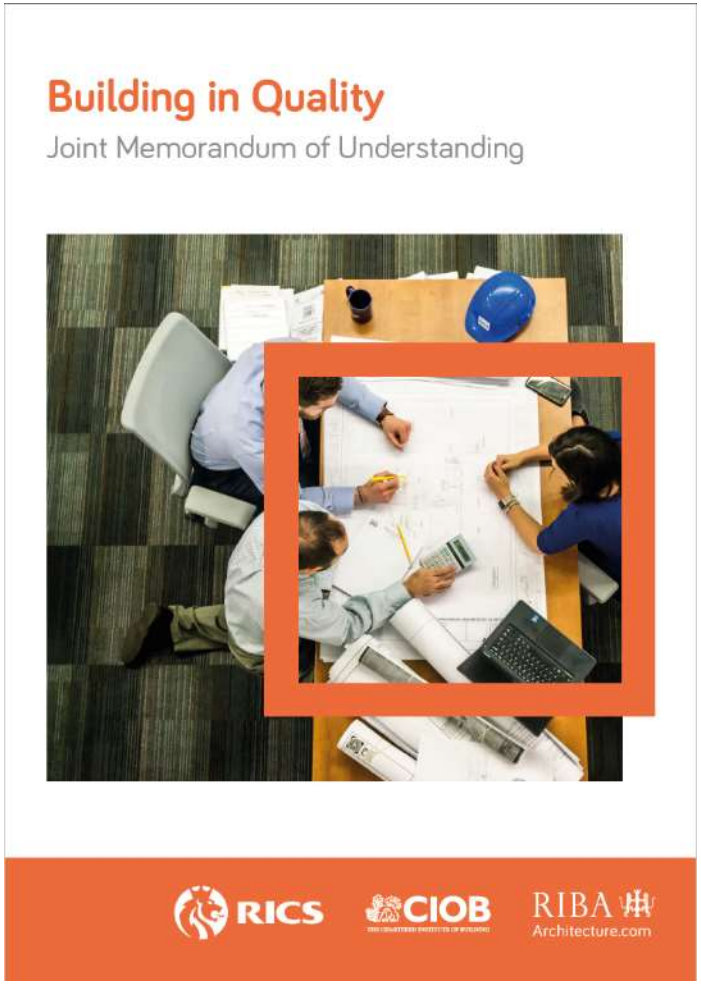
Building in Quality

- a joint initiative by RIBA, CIOB and RICS



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RIBA Client Liaison Group

Mission:

- To make the RIBA more outward facing
- To provide a forum to hear views directly from client bodies
- To provide a vehicle to feed ideas and initiatives from the Institute back to them

"Without measuring we can't improve"

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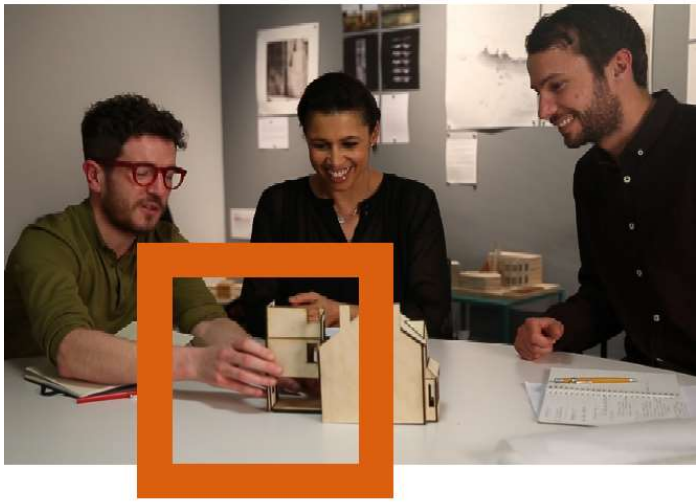
RIBA Client Survey 2016

Client & Architect



What Clients think of Architects

Feedback from the 'Working with Architects'
Client Survey 2016

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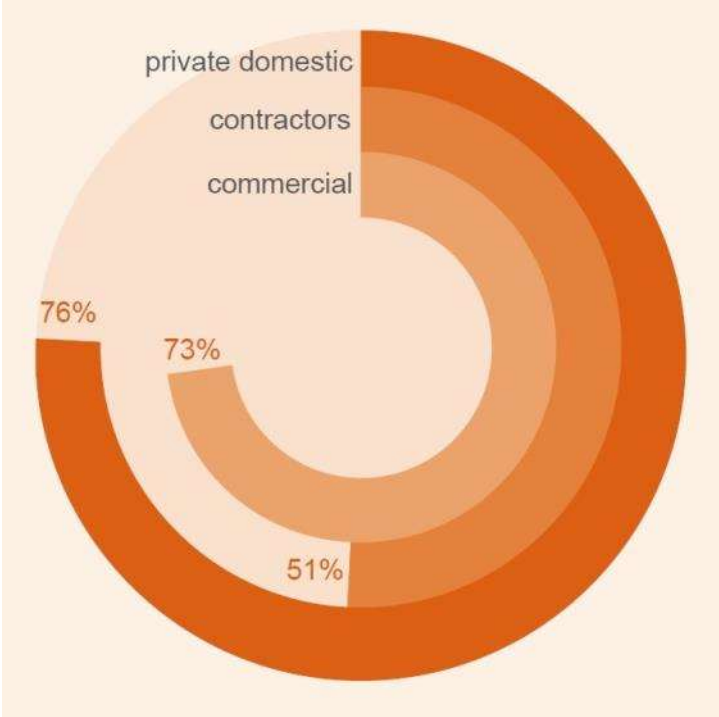
What clients told us – project overall



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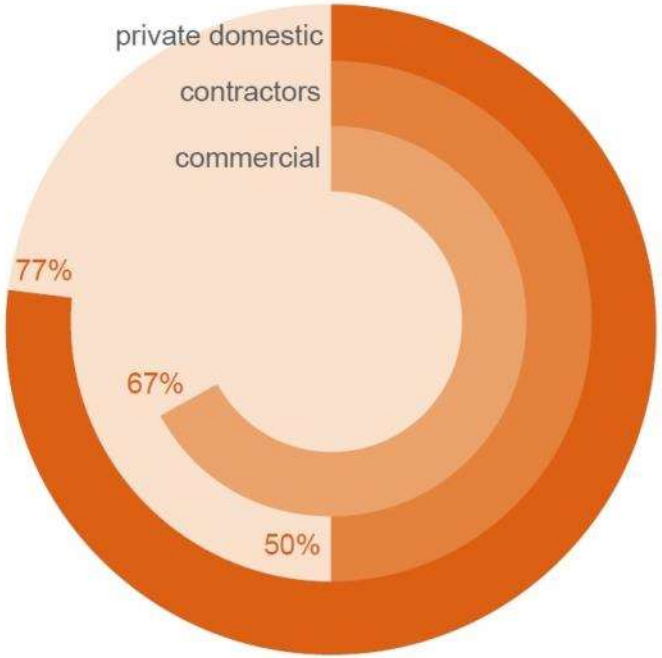
What clients told us – design skills and ability to meet the brief



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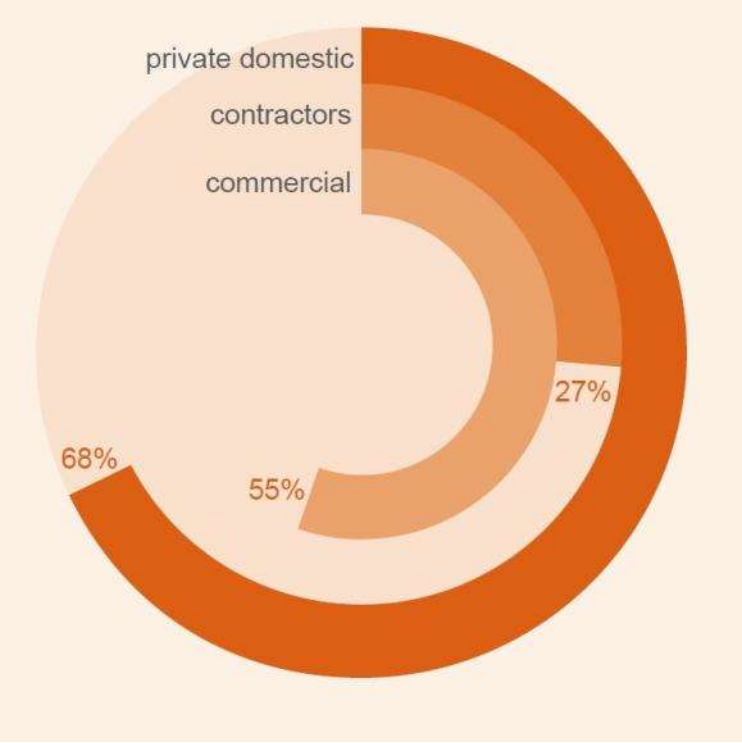
What clients told us – process management



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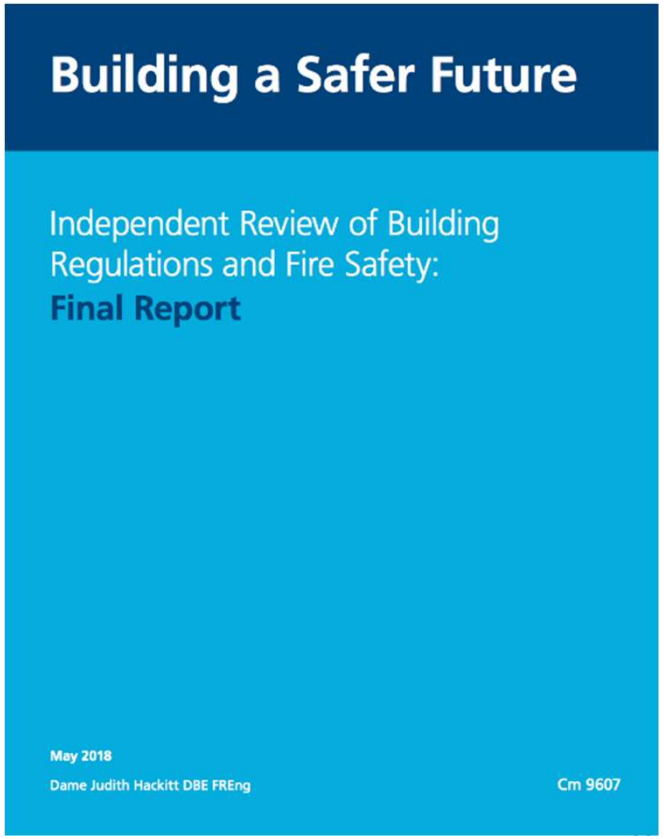
Edinburgh Schools Inquiry and Hackitt Review

Report of the Independent Inquiry into the Construction of Edinburgh Schools

February 2017



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Building in Quality – Joint Memorandum of Understanding

We hereby commit to work together to:

- Overcome cultural bias in the construction industry for better collaboration and greater transparency between members of the project team
- Give due prominence to the outcomes stated in the project brief
- Establish a way to identify and track risks to quality, cost and programme
- Encourage the involvement of end-users, purchasers and asset managers in the conception, design and specification of projects
- Promote progressive, long-term, integrated delivery and ownership structures

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RICS

CIOB

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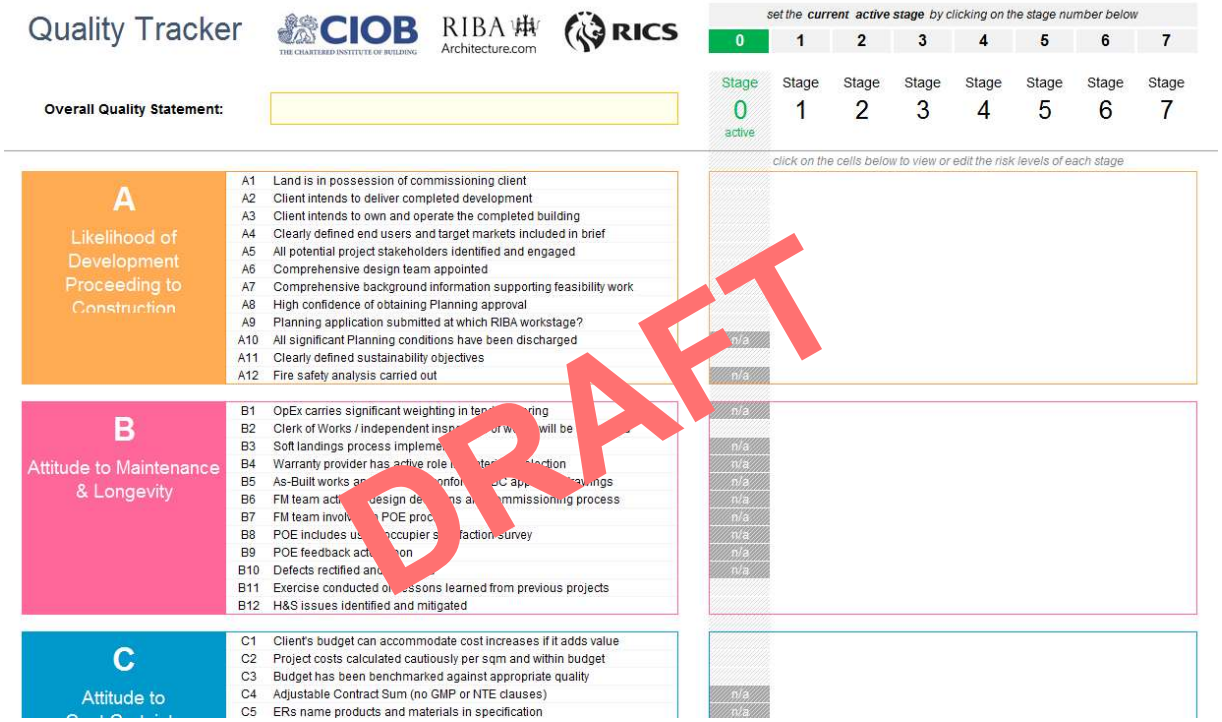
Building in Quality – Quality Risk Tracker



- A straightforward system for documenting and tracking risks to quality through the life of a construction project

- 6 quality risk variables:
  - Likelihood of development proceeding to construction
  - Attitude to maintenance and longevity
  - Attitude to cost certainty
  - Attitude to programme certainty
  - Likelihood of obtaining competitive tenders
  - Attitude to collaboration

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RICS

CIOB

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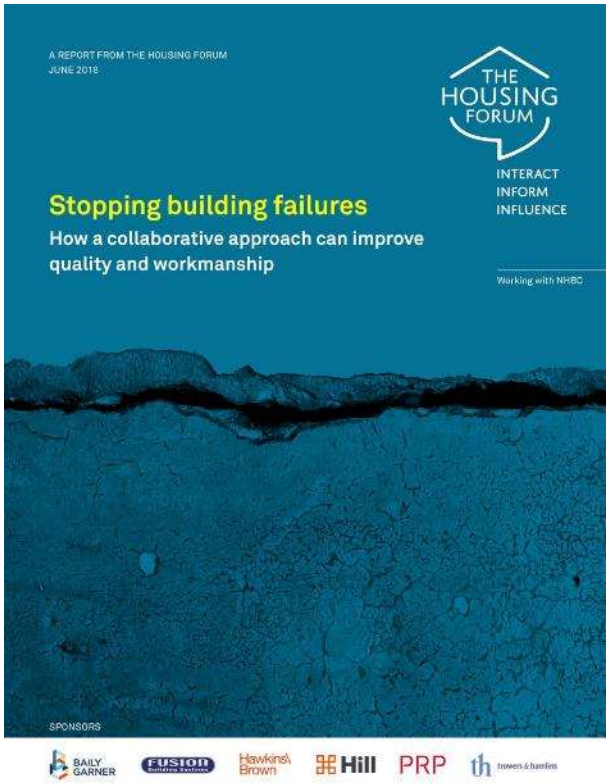

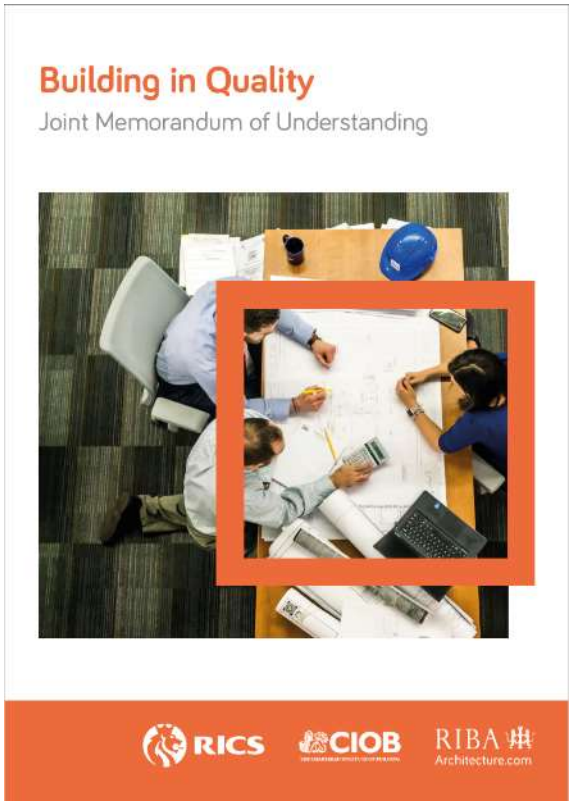

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Questions

- Have you used the online assessment tool to benchmark knowledge in DfMA? Y/N

- Have you read the Stopping Building Failures report issued by the Housing Forum? Y/N

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Designing Buildings Wiki

The construction industry knowledge base

designingbuildings.co.uk

Chairman / Co-founder
David Trench CBE FCIOB

Director / Co-founder
Dr Gregor Harvie

Chief Executive
Richard Winward LLB FCIArb FCInst CES

Company Secretary
Martin Cantor

Editor
Michael Brooks

Relationship Manager
Simon Baxter

ice Institution of Civil Engineers

bre TRUST

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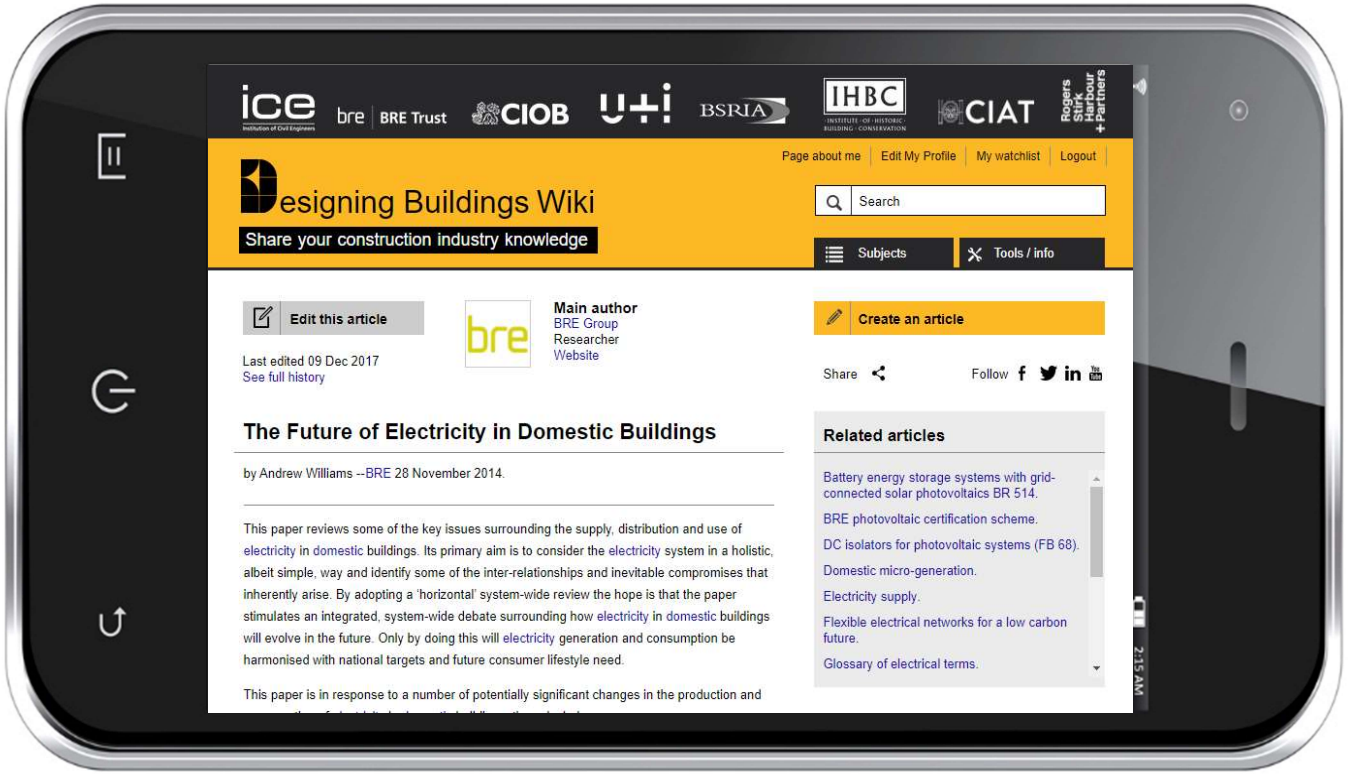
IHBC · INSTITUTE · OF · HISTORIC · BUILDING · CONSERVATION

CIAT

Rogers Stirk Harbour + Partners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Search
Subjects
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Edit this article
Last edited 09 Dec 2017
See full history
Main author
BRE Group
Researcher
Website
Create an article
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The Future of Electricity in Domestic Buildings
by Andrew Williams --BRE 28 November 2014.
This paper reviews some of the key issues surrounding the supply, distribution and use of electricity in domestic buildings. Its primary aim is to consider the electricity system in a holistic, albeit simple, way and identify some of the inter-relationships and inevitable compromises that inherently arise. By adopting a 'horizontal' system-wide review the hope is that the paper stimulates an integrated, system-wide debate surrounding how electricity in domestic buildings will evolve in the future. Only by doing this will electricity generation and consumption be harmonised with national targets and future consumer lifestyle need.
This paper is in response to a number of potentially significant changes in the production and
Related articles
Battery energy storage systems with grid-connected solar photovoltaics BR 514.
BRE photovoltaic certification scheme.
DC isolators for photovoltaic systems (FB 68).
Domestic micro-generation.
Electricity supply.
Flexible electrical networks for a low carbon future.
Glossary of electrical terms.

4 million users a year

12 million page views a year

9,500 registered users

7,000 articles

Guest

UP.

, Sep 9, 2010

Bloke who's great
New Member

DOWN.

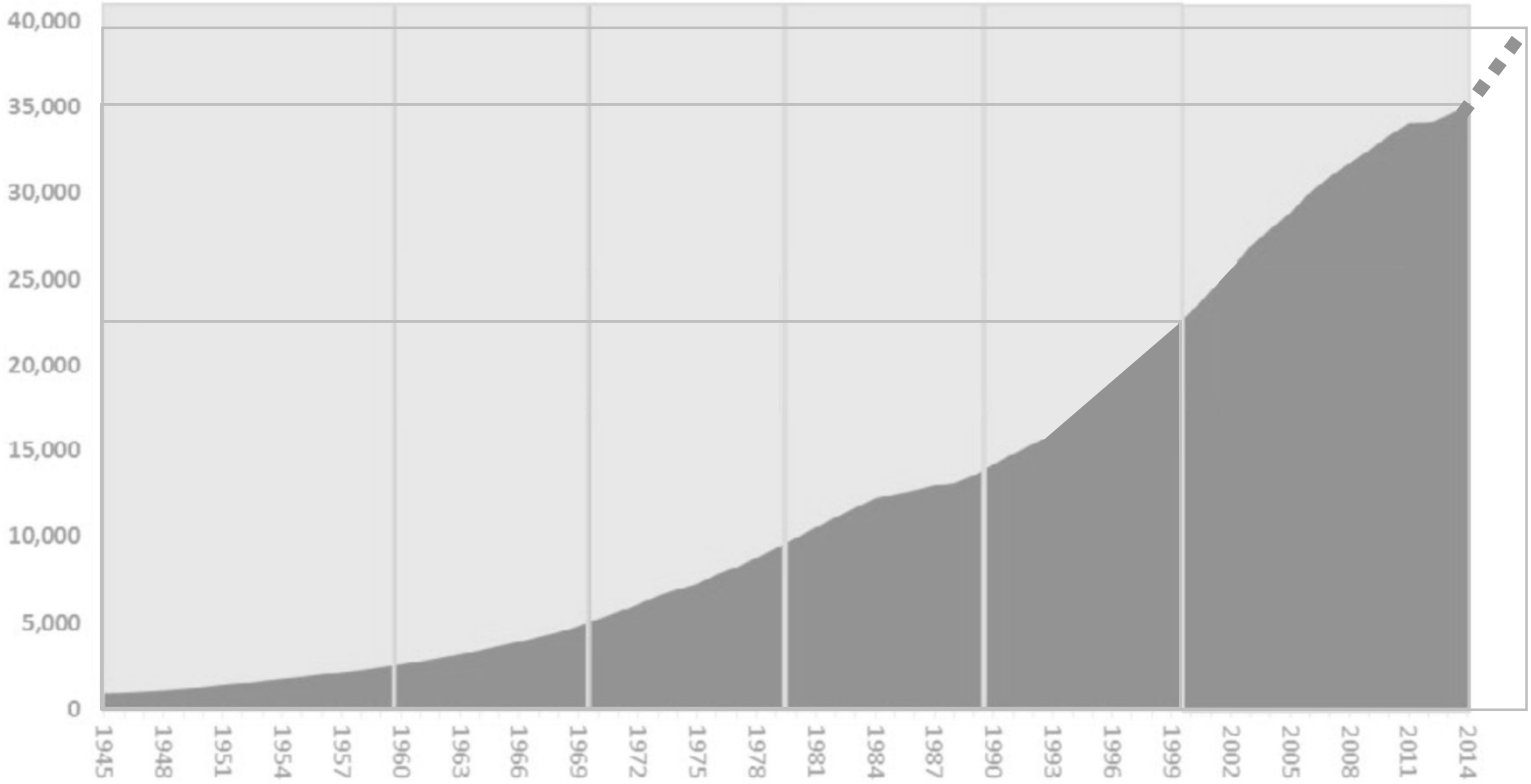
Bloke who's great, Sep 9, 2010

Ignore the thicko's OP!

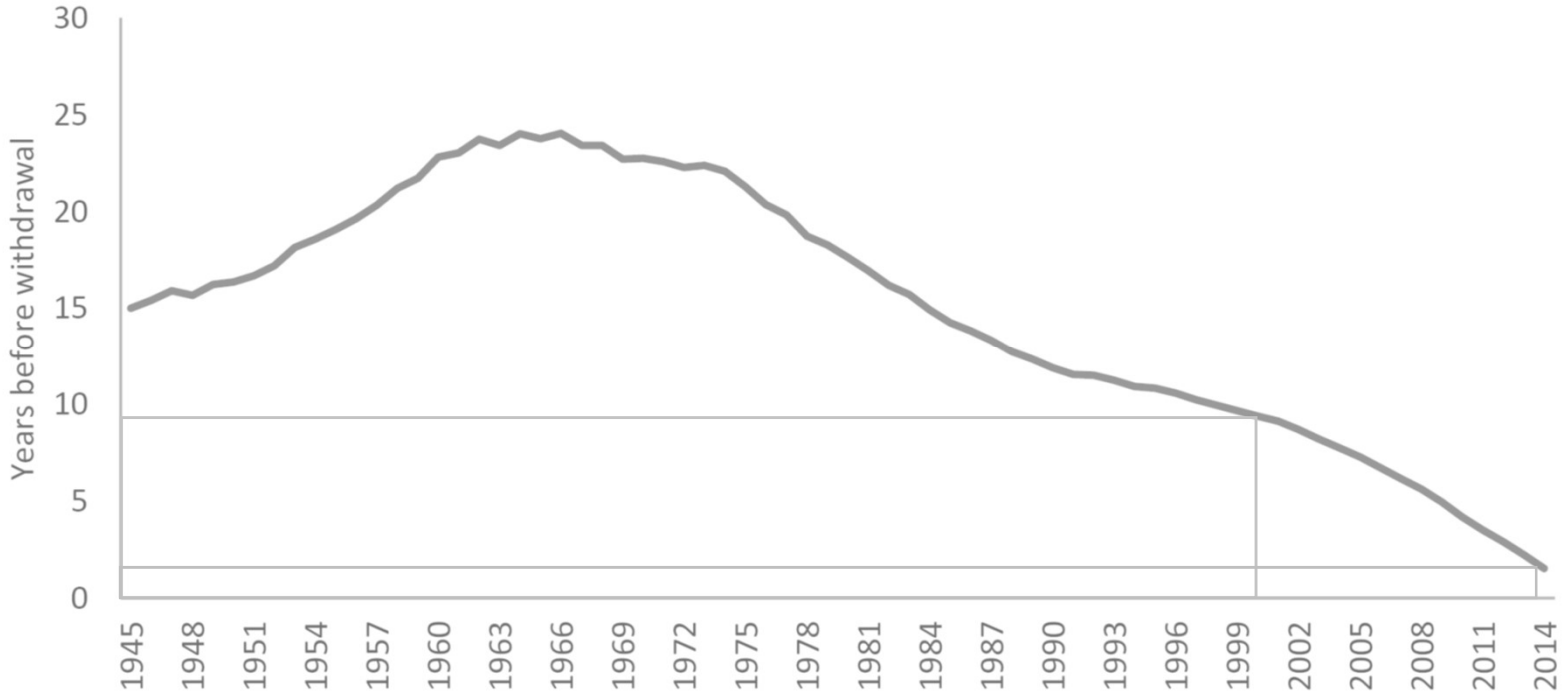
It's sideways!

The construction industry is becoming more complicated

Net stock of standards in the BSI Standards Catalogue, 1945 to 2014
Source: BSI British Standards Online (BSOL) database, Cebr analysis

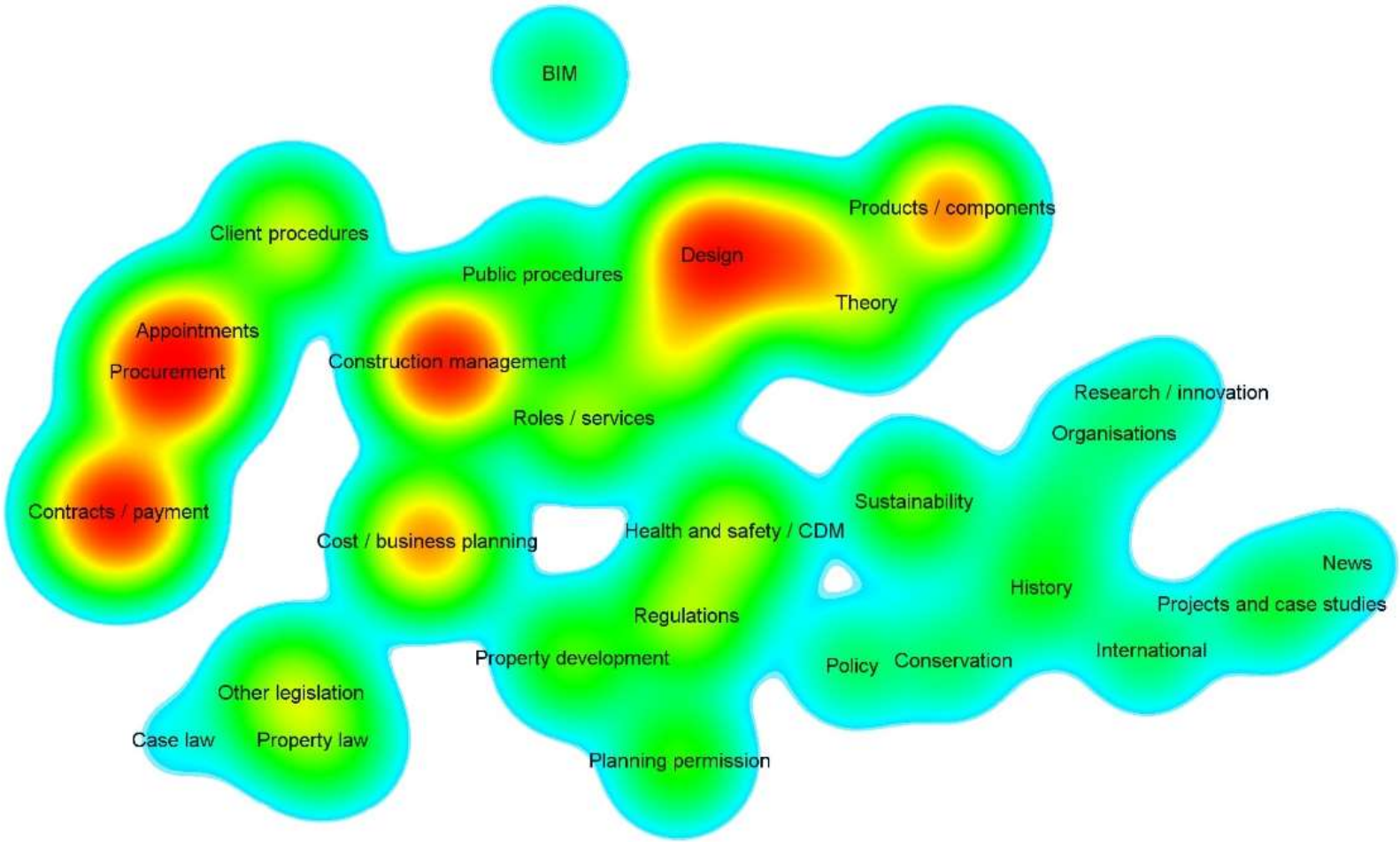


Average years before standard withdrawal, by published year, 1945 to 2014, smoothed
Source: BSI British Standards Online (BSOL) database, Cebr calculations

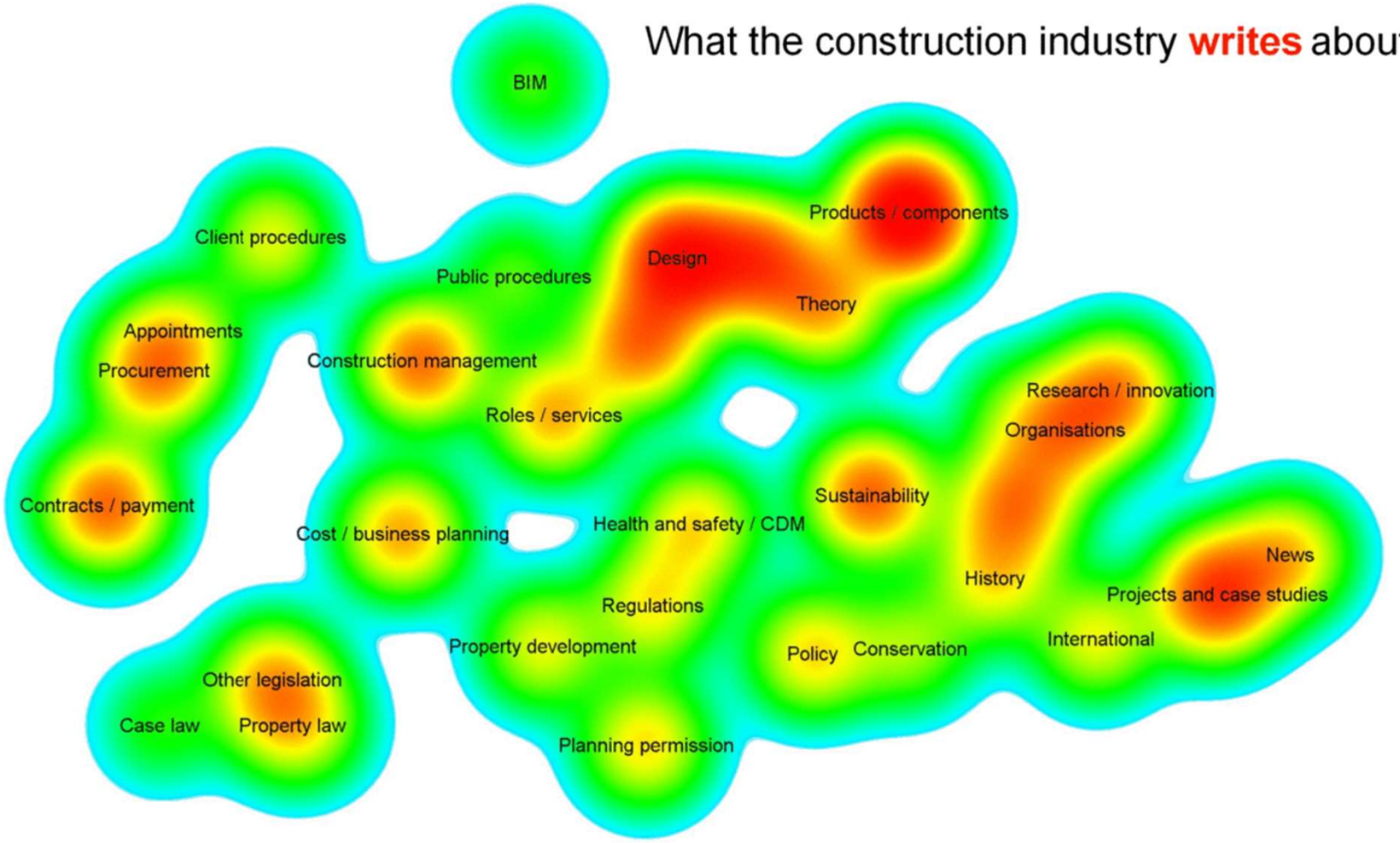


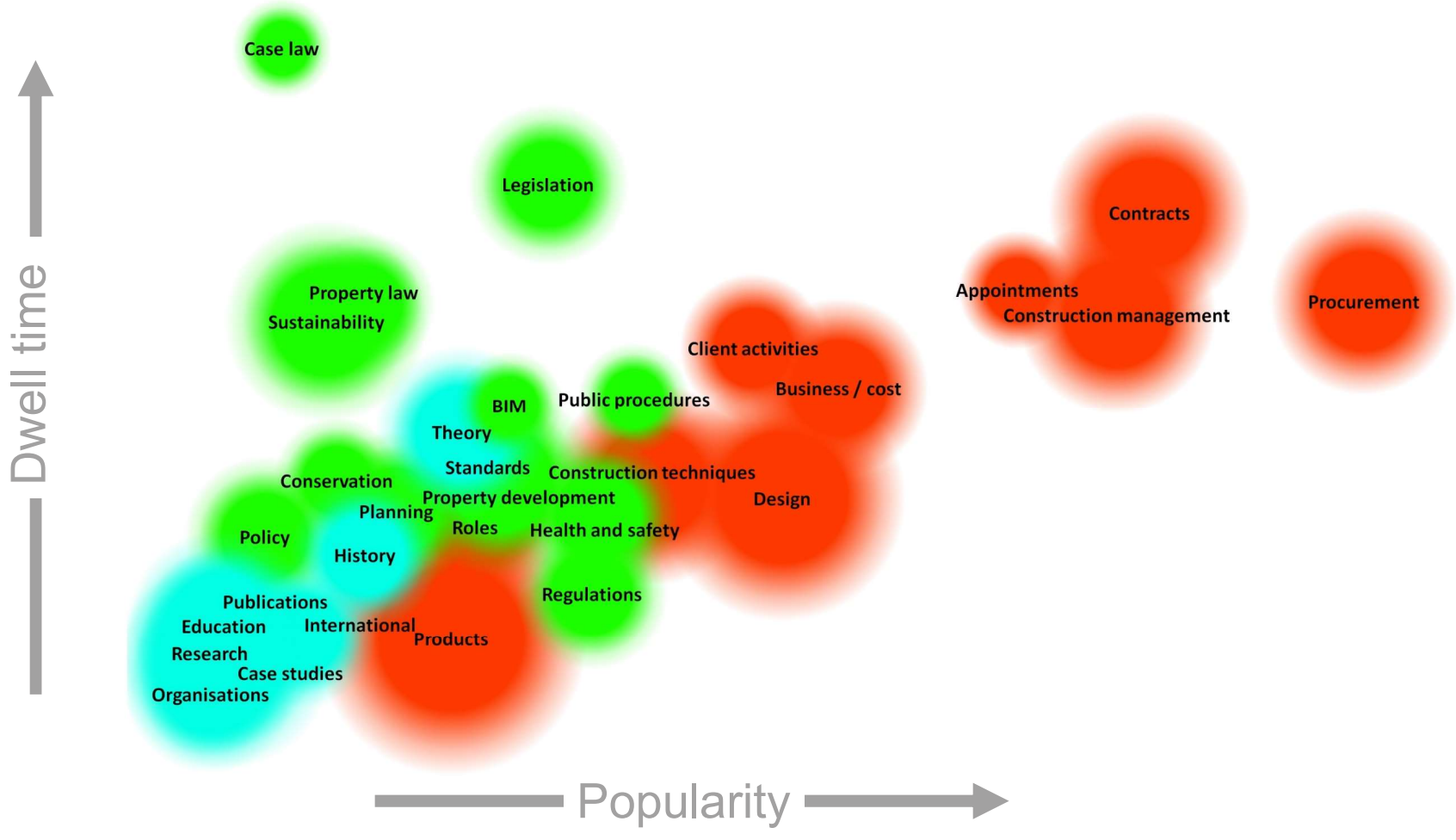
The knowledge framework

- Legislation / regulations / policy.
- Case law / case studies.
- Standards.
- Contracts.
- Guidance.
- Research.


BIM
Client procedures
Public procedures
Design
Products / components
Theory
Appointments
Procurement
Construction management
Roles / services
Research / innovation
Organisations
Contracts / payment
Cost / business planning
Health and safety / CDM
Sustainability
News
History
Projects and case studies
Regulations
Property development
Policy
Conservation
International
Other legislation
Case law
Property law
Planning permission

What the construction industry **writes** about




Dwell time
Popularity
Case law
Legislation
Property law
Sustainability
Contracts
Appointments
Construction management
Procurement
Client activities
Business / cost
BIM
Public procedures
Theory
Standards
Construction techniques
Conservation
Property development
Design
Planning
Roles
Health and safety
Policy
History
Regulations
Publications
Education
International
Products
Research
Case studies
Organisations

- There are significant differences between what the industry publishes and what practitioners need.
- Practitioners need more practical, easy-to-use guidance.
- Knowledge that is buried in long documents will not be used - even if it is critically important.

- History.
- Uses.
- Manufacture.
- Properties, shapes and sizes.
- Mortar and bonding.
- Site practice.
- Future developments.
- Selecting the right type of brick.
- Buying bricks.
- Selecting the right mortar.
- Laying out brickwork.
- Laying bricks.
- Problems with brickwork.
- Repairing brickwork.

Why this matters

- People are finding the wrong information.
- The right information is not being used.
- There is a lack of practical information.
- Practitioners are not properly supported.
- They are making avoidable mistakes.

Vision

- It should be easy to find out what knowledge exists.
- It should be easy to access that knowledge.
- It should be in a format that is easy to use.

Dr Gregor Harvie
Designing Buildings Wiki

web designingbuildings.co.uk
construction knowledge task group

email gregor.harvie@designingbuildings.co.uk

Questions

- Do you have easy access to all the knowledge you need? Y/N
- Has the way you work been influenced by new research this year? Y/N

SESSION 2

Standards as a RISK management framework

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Standards as a Risk Management Framework

Andy Thurgood CMIOSH

UK Superbrands 2018

By Royal Charter

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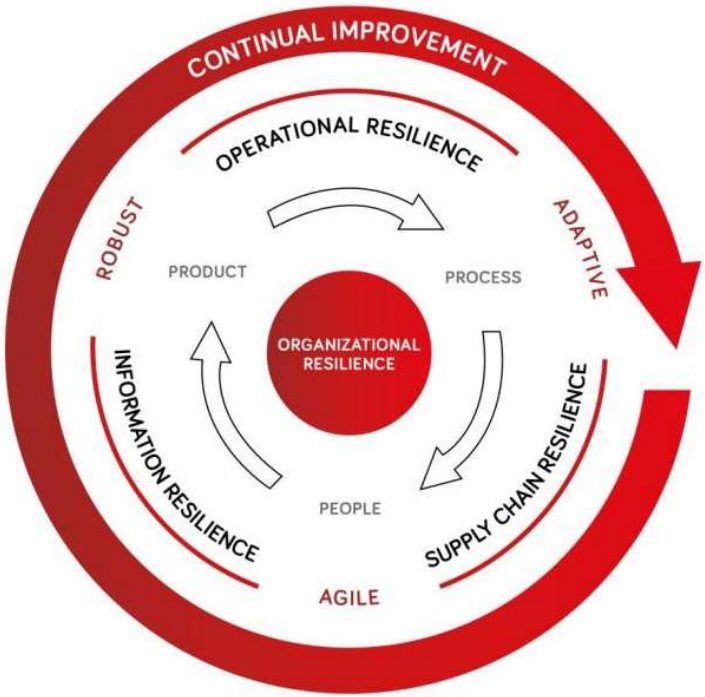
Organizational Resilience



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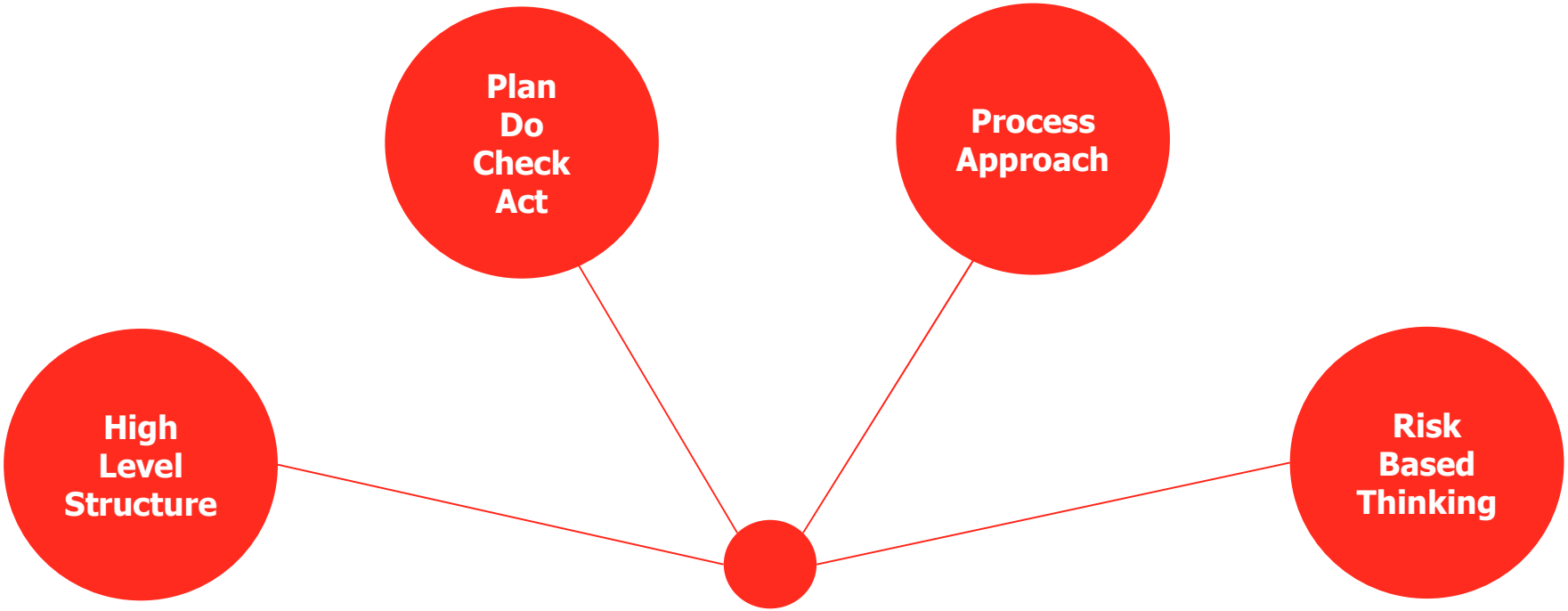
Core Principles



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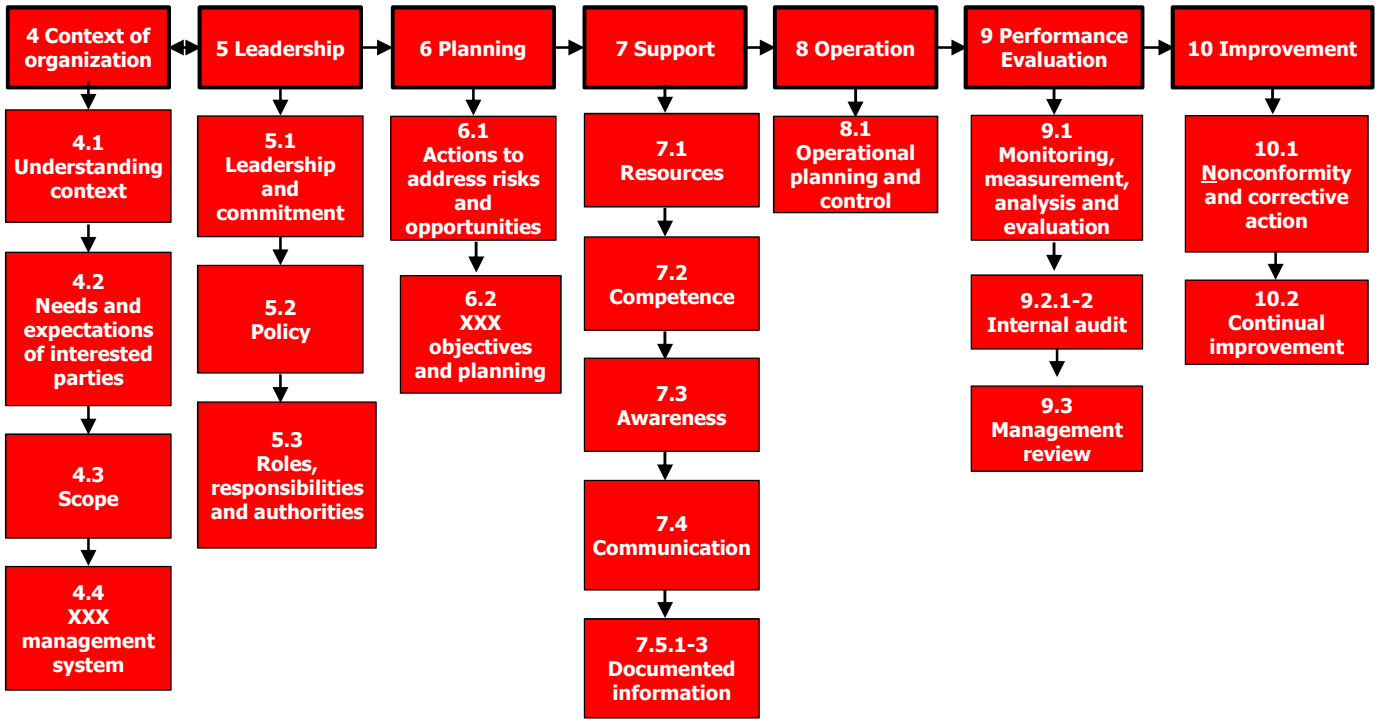
ISO Directives - High Level Structure (Requirements)



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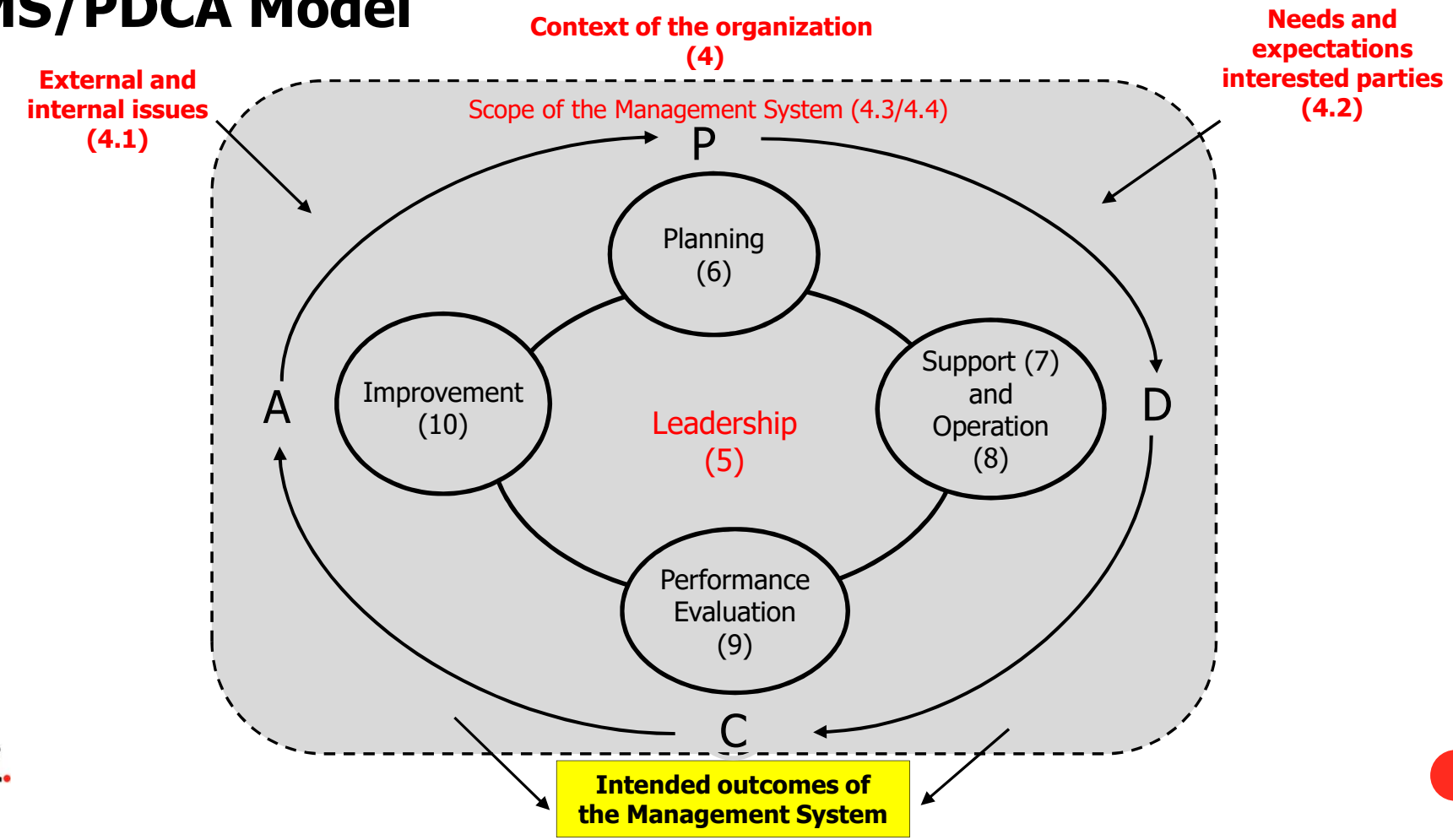
Framework for a generic management system

MS/PDCA Model



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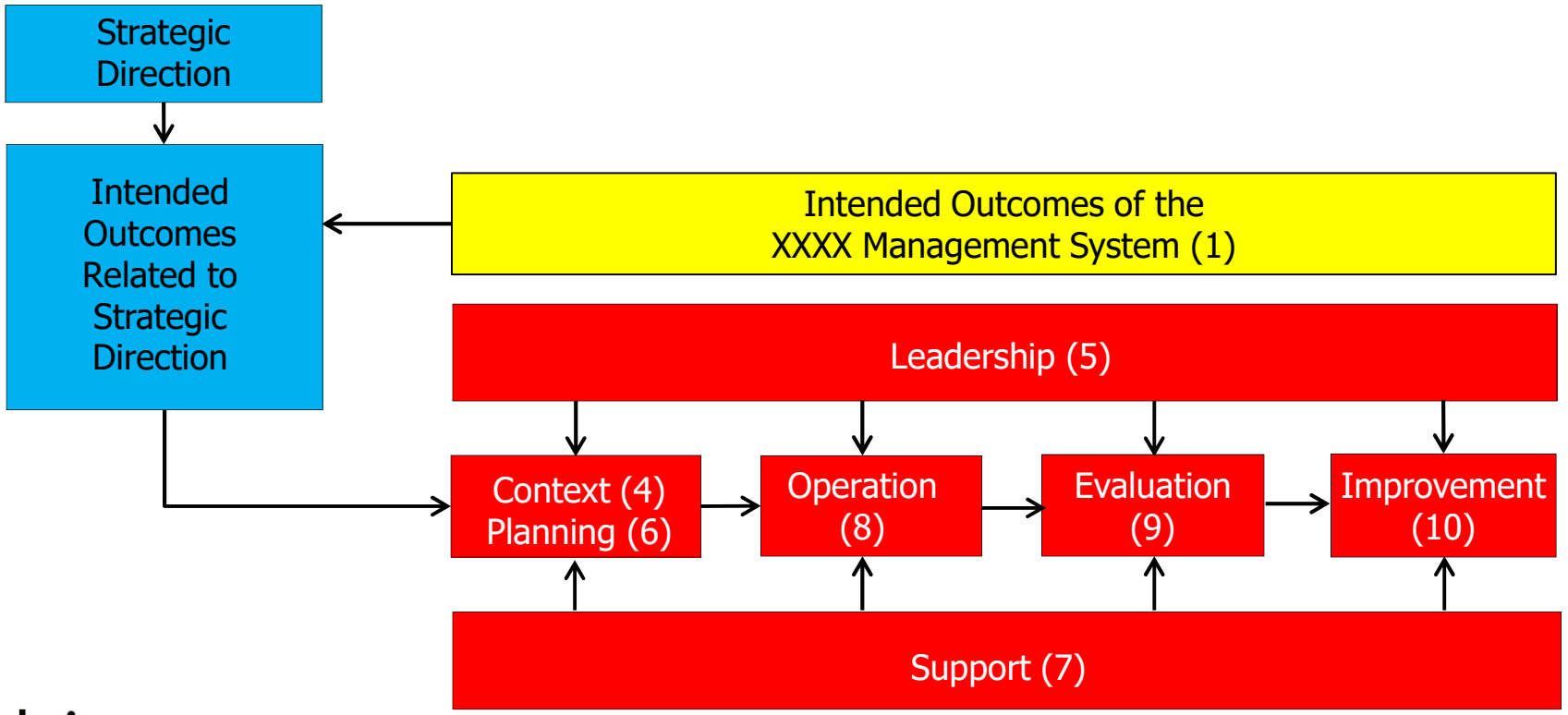
Strategic Direction & Intended Outcomes



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Question 1

Do you believe there is a disconnect between Top Management's strategic direction, and existing Management System framework?

- Yes
- No
- Don't Know

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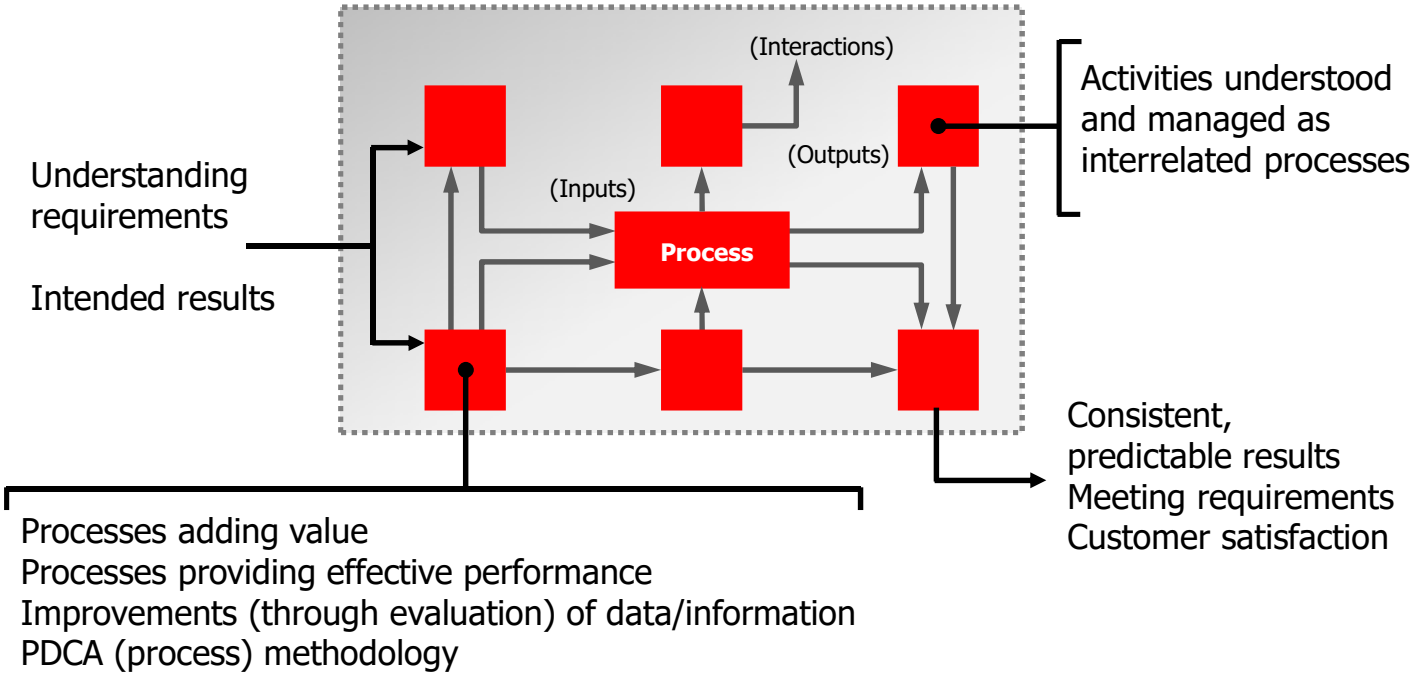
Process Approach

A Coherent System:



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Question 2

Given the significance of process approach, do you believe that your business is adequately process mapped, and understands it's interactions?

- Yes
- No
- Don't Know

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Risk-Based Thinking

- Risk – the effect of uncertainty
- Effect – deviation from the expected, positive or negative
- Risk based-thinking – consideration of risk when defining the rigour and degree of formality required

Inputs to Risk & Opportunities – Internal & External Issues

PESTLE Analysis

	Internal	External
Political	Management System stagnation, arising from responsibilities & authorities	Brexit, and availability of migrant labour
Economic	Budget to adequately resource the Management System	Clients requiring higher levels of compliance and control
Social	Relationships with workers	Aligning cultures with the supply chain
Technological	Asset maintenance and management of life cycle	New technologies, requiring new competencies, BIM standardisation, Internet of Things
Legal	The knowledge to track and interpret legislation	Changes in legislation, governance in the digital age
Environmental	Suitability & adequacy of the workplace	Site based conflict with other trades impacting on activities , products and services

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Inputs to Risk & Opportunities – Interested Parties

Workers, including Management	**Good reputation/culture. Formal recognized training for all workers. Safe and healthy working conditions. Effective consultation and participation arrangements. Workers taking responsibility for their work, quality, safety and the environment. Workers who pro-actively report deficiencies in Management System arrangements and offer up improvements.**
Owners, Shareholders, Executive Board, Parent Organization	**Financial benefit, legal compliance/avoidance of fines, reputational/brand gain – corporate social responsibility (CSR), enhanced corporate governance (CG)**
Legal and Regulatory Authorities	**Identification, application and monitoring of applicable statutory and regulatory requirements for Management System activities under the Organisation's control/influence. Prompt responses to investigations and enquiries, prompt reporting of applicable incidents.**
Contractors/ Suppliers	**Clear statement of requirements in tenders/contracts. Adherence to agreements.** **Level playing field for all requirements. Reasonably demands.**
Customers	**Evidence of Management System conformance/legal compliance. Value for money. Maintained levels of contract SLAs. Socially and ethically responsible.**

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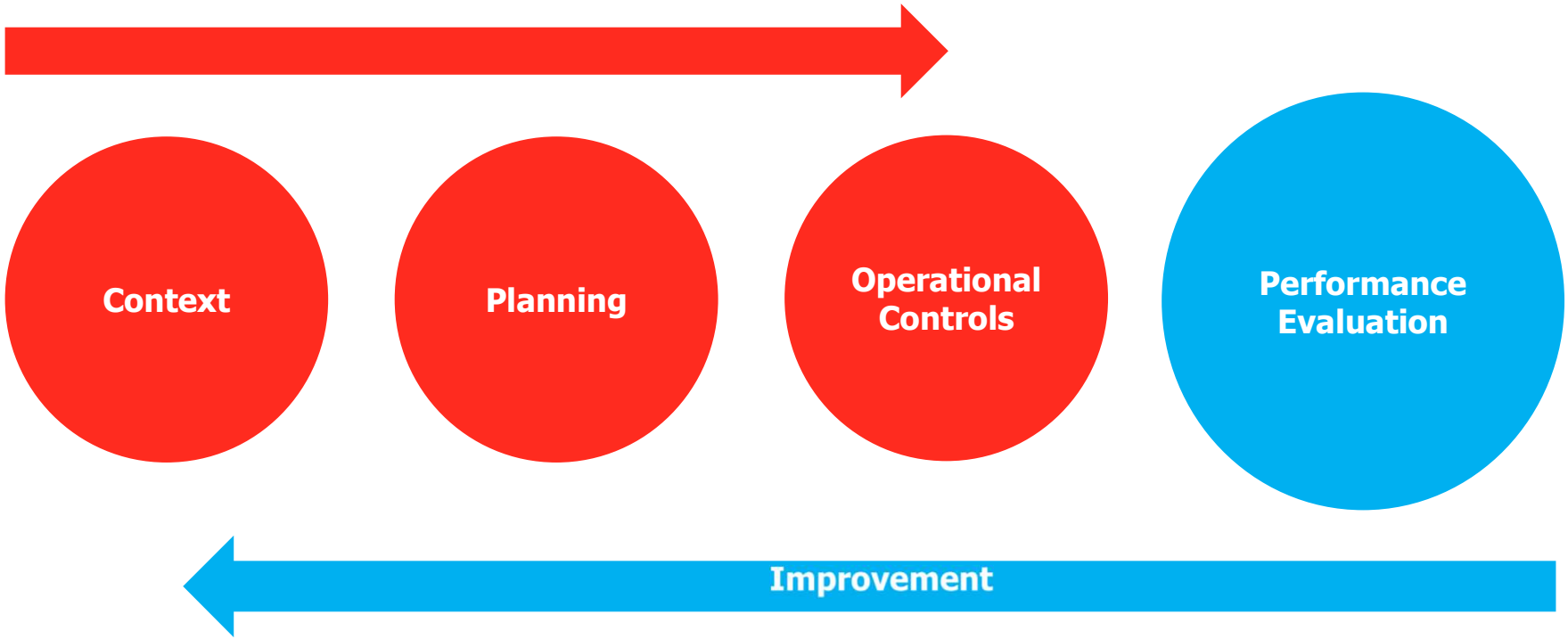
Context to Controls…



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Question 3

Reflecting on the challenges arising from performance evaluation, internal assurance, and acting upon actions arising, how effective do you consider your organisation in delivering timely improvement?

- Effective
- Mostly Effective
- Partially Effective
- Ineffective

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Questions?

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SESSION 3

The consequence of not managing quality RISK

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Cost of Quality

Dan Keeling

Channel Tunnel, HS1 and Crossrail

Chair, Cost of Quality Working Group

Helen Soulou

Head of Quality at Heathrow Airport

Member, Cost of Quality Working Group

High Speed 1-Lesson Learned

- During installation of M&E equipment we had one quality engineer full time visiting sites and talking to electricians, comms installers over the importance of correct terminations particularly earthing straps. Railways fail safe so loose connections cause service disruptions
- Result HM audit office report in 2012 stated line had performed well with only 0.43% of services being delayed due to infrastructure issues
- Quality must be built in. Testing and Commissioning only show it works at the time of testing

Quality Costs –Risks and Opportunities

- Risk-Almost all major failures have quality as a root cause
- Opportunity – this cannot be defined adequately without decent data.

We have so many cost, programme, safety, and environmental key performance indicators but we really do not know what is the cost to an operator/owner of quality issues.

Quality Risk factors

- Design particularly loading errors, safety factors
- Poor specifications
- Document Control
- Incorrect purchase information, failure to check incoming goods
- Poor quality control
- Poor records

Approach to project

The Working group examined the complexity of the task.

The cost of Non-Conformance Reports has been studied extensively and the costs were measured differently by contractors, different forms of contract were used and defects percentages varied widely across the industry).

More importantly ,consequential costs were undermeasured and durability concerns overlooked

We decided to restrict our scope to quality issues post handover to give us a chance.

Cost of Quality

What is Quality?

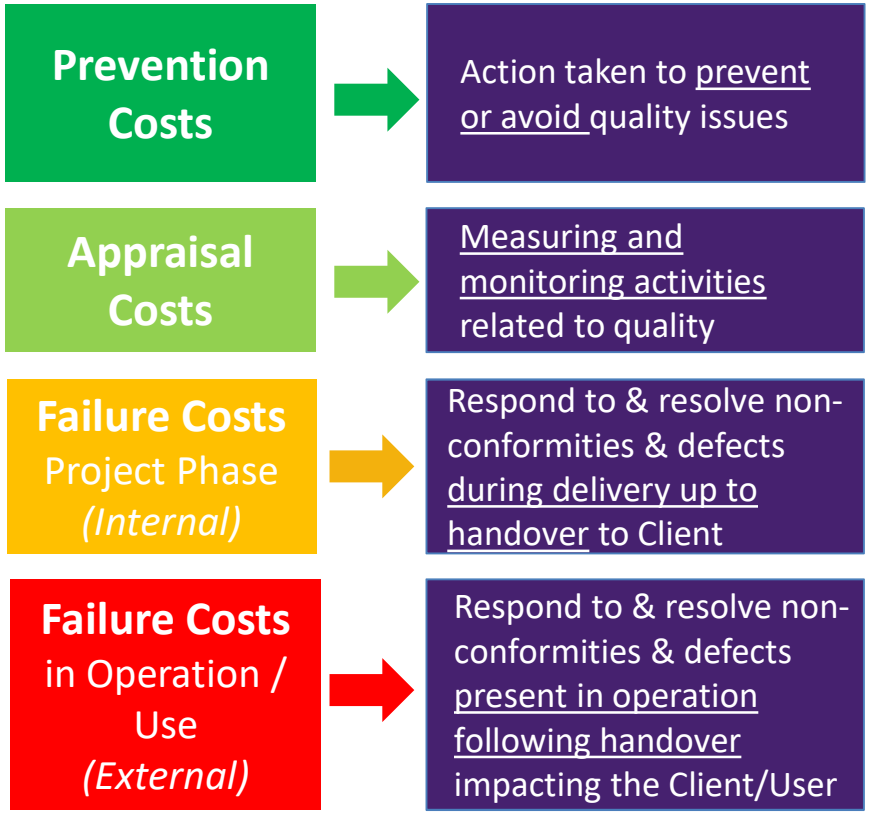
Quality = Meeting the Client / Customer Requirements
Right First time

What is Cost of Quality?

The costs incurred through activities to ensure the Client / Customer Requirements are met, or because they are not met

CofQ model first discussed in the 1950s
Used in manufacturing and service industries

Cost of Quality Categories



External Failure Cost categories analysed

Quality cost elements
1. Safety Costs for Operators and Occupants
2. Asset Availability & Functionality Costs
3. Energy Use Costs
4. Maintenance Costs
5. Environmental Costs
6. Additional operational training Costs
7.Early Obsolescence Costs
8.Reputation/ brand, indirect consequential losses Costs

Examples against Model

(sourced through public data)

- Safety Costs - Grenfell and other tower blocks
- Asset availability costs- numerous examples ranging from 0.3% to 130% of project costs;
  - Functionality cost –Water treatment plant 50%
  - Rectification costs –Office Block 24%
- Maintenance costs- rail project 21%;

  Latent defect costs - Car Park . Claim 1.3% of project cost
- Environmental cost -Nuclear plant 1100%

Examples against Model

- Operational readiness –Airport 1%
- Early Obsolescence – District Hospital
- Reputation/Brand-Stadium 18%

Insurance – Housing Block –claim 580% of project cost (£8.6m)

Good examples

HS1 , Terminal 5, Anglian Water

There is still work to be done here in classifying issues/costs

Cost of Quality research findings

Project quality and performance has
effects that go way beyond the end of the project and into the
operational life of the asset

The effects of poor project quality have an impact into all aspects of Operations:

- creating **inherent safety risks,**
- **increased maintenance costs,**
- **asset availability costs** when assets are not utilised as planned
- **environmental** implications and related costs
- **rework and early obsolescence costs** leading to **new projects** to deal with unresolved quality issues and latent defects
- **reputational and brand image costs** that are very hard to estimate,
- **increased insurance costs**

Cost of Quality research findings

- Focus on quality during project delivery will **not only improve the project during construction** but will **also deliver efficiencies in operations** that are way better than the ones originally anticipated
- The **performance** of the **project** and its **delivery strategy** should not be based only on the **time, cost and quality** but also on the **operational performance of the asset(s)**
- Client, architect, designer, contractor, sub-contractor should **work as a system**. Because of the **misalignment of their goals**, the whole **system is fragmented** leading to operational failure
- In cases, procurement strategies, frameworks and contractual arrangements set by Clients **lead to a fragmented construction industry** where the different parts of the system have different goals and **improvement of the system is almost impossible**

Cost of Quality research findings

- There was **“blindness”** of the senior leadership teams of both Clients and contractors **around the operational impacts of the non-focus on quality**
- Incentives for continuous improvement of the **whole system** are non-existent
- Contractors are sometimes **set to fail** because of **early decisions**. In cases, the Client choices early in the process can influence quality more than the contractor on site can ever influence
- **Architects and designers** feel no “pain” from quality issues, either on-site and more importantly in operations, as they are usually far removed from the project when it goes into delivery

Cost of Quality research findings

- The **delivery model** plays an important role in the **motivation of the supplier** to **solve errors** as they happen in the project, to be open and honest about them, or hide them and **leave them for later** (they are somebody else's problem anyway!)
- **Procurement and contractual models** sometimes contradict the **culture for quality** that the client wants to achieve. E.g. milestone payments, commercial incentives, retention money are creating incentives that are opposing the open and honest approach that continuous improvement requires.
- Learning from previous projects, errors and non-conformities, or defects is **not used as a continuous improvement opportunity**. In the cases where projects are learning from the past the **benefit** to the project is **huge**.

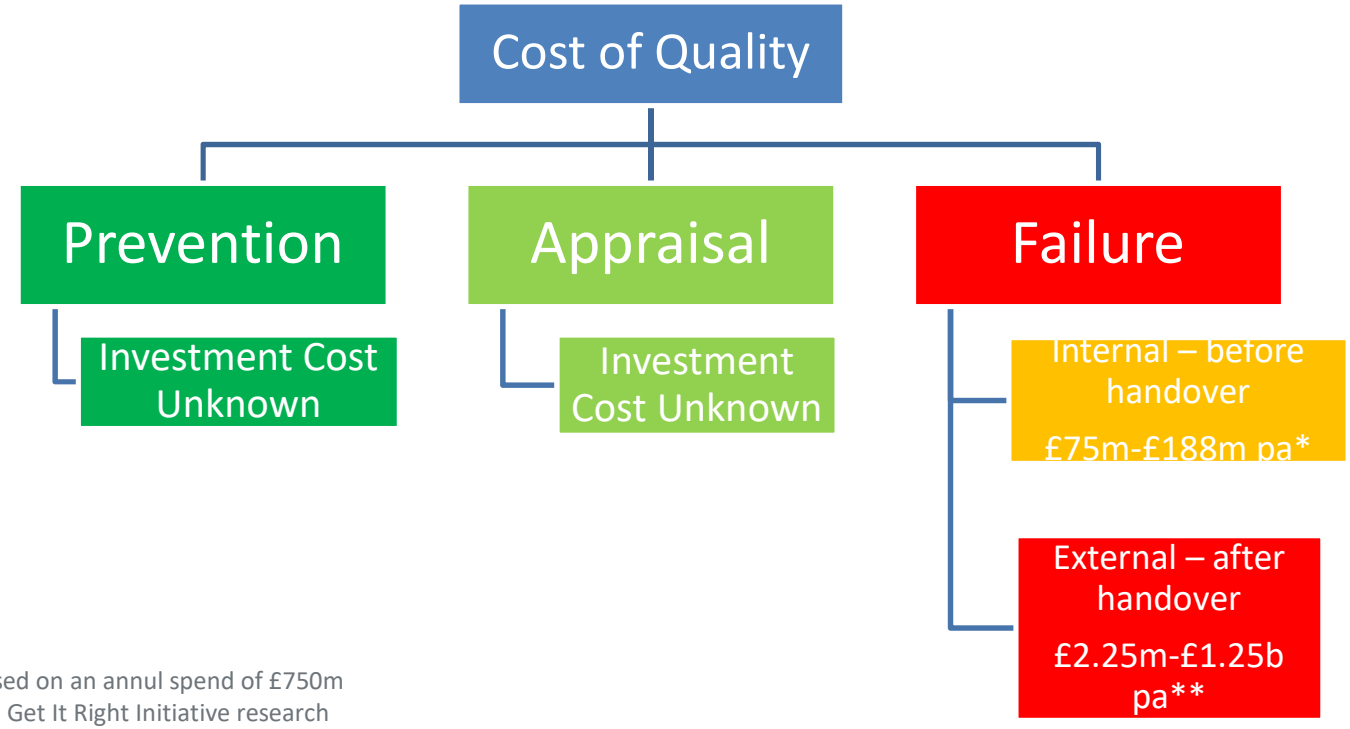
Common root causes

(leading to operational failure)

- inadequate site surveys
- design and product selection
- contractual arrangements and the tender process
- lack of appropriate expertise at many levels within all the organisations involved
- lack of a rigorous quality and continuous improvement culture in the construction industry
- time and budget pressures

What we have learned so far

(in monetary terms)



Figures are based on an annul spend of £750m
* Based on the Get It Right Initiative research
** Based on the UCL CofQ research

What we have learned so far

(in monetary terms)

Failure Costs	Cost Category	Percentage of project budget		Source	Costs per annum for a £750m spend (in million £)	
		min	max		min	max
Internal before handover	**Total cost of error**	10.00%	25.00%	GIRI	£75	£188
External After handover / in operation	**Asset availability & functionality cost**	0.30%	50.00%	UCL	£2	£375
	Maintenance costs	20.00%	45.00%	UCL	£150	£338
	Reputation/brand costs	18.00%	167.00%	UCL	£135	£1,253
	Rectification/new project costs	10.00%	24.00%	UCL	£75	£180

Way forward

- Continue to obtain data
- Assess further projects
- Obtain data from insurance industry
- Assess whether we can use BIM to aid in developing Cost of Quality metrics
- Produce booklet on cost of quality issues

Cost of Quality

Dame Judith Hackitt has said she was “truly shocked” by standards in the construction industry when researching her report, *Independent Review of Building Regulations and Fire Safety*, published earlier this year.

She said,

"We need to get to a point where people those who construct a building are as responsible for those who use it over the next ten or 20 years as they are employee safety. What we are calling for is collaboration and joined-up thinking across the built environment sector, not self-interested groups protecting their own turf, something I have seen a lot of.”

- Is this reasonable ? Y/N
- Is this achievable ? Y/N

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Quality : Turning Risk into Opportunity

The consequences of not managing Quality Risks

25 September 2018

Chris Doran
Partner
Chris.Doran@weightmans.com

Letters of Intent

- Purports to record, in broad terms, an intention between parties to enter into a formal contract
- Primary use is to get a contractor on site fast
  - The issuance of a letter of intent allows initial work to proceed before the formal contract is finalised and/or executed or while the negotiations are ongoing
- "Statements of Intent" or Legally Binding?
  - Comfort Letter
  - Instruction to commit / spend money
  - Letter creating a binding contract
- Should letters of intent be used? See The Trustees of Ampleforth College v Turner & Townsend Consulting (2012)
- What should a well crafted letter of intent include?
- What happens if the letter of intent is silent on quality, time and cost?

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Contractual Documents: Post Højgaard

- **MT Højgaard A/S (Respondent) v E.On Climate & Renewables UK Robin Rigg East Limited (2017)**
  - Decision given by the Supreme Court
  - Overturned the CoA decision – who had rejected a "fitness for purpose" approach
  - The contract stipulated, within the technical requirements, that the 'design of the foundations shall ensure a lifetime of 20 years' ('the 20-year term')
  - **But also** required compliance with an international standard for the design of offshore wind turbines ('J101'), which included an erroneous variable used in determining axial load capacity – this error was not known within the industry
  - Lord Neuberger interpreted the J101 standard to be a minimum requirement (in accordance with s. 3.1 of the contract), and held that the correct analysis of the purported inconsistency was that the more rigorous or demanding standard must prevail. This meant that MTH had to ensure a 20-year design lifespan.
- **Risks?** See also 125 OBS (Nominees1 v Lend Lease Construction (Europe) (2017)

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Contractual Documents: Contd.

- **SSE Generation Ltd v Hochtief (2018)**
  - Hochtief were appointed under an NEC2 engineering and construction contract for the design and construction of a tunnel as part of an hydro electric scheme.
  - Shortly after Practical Completion there was a tunnel collapse.
  - The Works Information provided the tunnel to have a design life of 75 years.
  - Clause 2 stated that Hochtief's liability for defects "*…due to his design, that are not listed on the defects certificate, is limited so far as he used reasonable skill and care and complied with the Works Information*."
  - The term *"design"* was defined to mean (i) works not in accordance with the Works Information, or (ii) part of the works designed by Hochtief that was not in accordance with its own design.
  - Option M went on to exclude Hochtief's liability for *"…defects in the works due to his design, so far as he proves that he used reasonable skill and care…".*
  - However, clause 80.1 provided that SSE assumed the risk of loss and damage caused by a defect occurring before the defect certificate was issued and caused by a defect that existed at takeover.

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Contractual Documents: Contd.

- Who was liable of the cost of carrying out the required remedial works?
  - SSE claimed that the loss was caused by a defect and that Hochtief were liable. The Works Information required the works to have a design life of 75 years.
  - Hochtief argued:
    - It had carried out the work strictly in accordance with the contract.
    - SSE had assumed the risk.
    - Option M absolved them from liability as there had been no lack of care and skill on their part.
- Hochtief successful at trial but the decision reversed on appeal (by 2 to 1).
- Risks: Distinction between design and design implementation? Needs careful consideration.

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Contractual Documents: Contd.

- Decision of the Court of Appeal:
  - Hochtief was liable for over the £100 million, being the cost of the remedial works.
  - The tunnel collapse was caused by a defect: i.e. the tunnel had insufficient support and the tunnel did not have a design life of 75 years.
  - That defect had existed prior to practical completion.
  - A warranty that work would have a design life of 75 years did not equate to a warranty that it would last 75 years, merely that it would last 75 years without major refurbishment or significant expenditure.
  - Option M did not absolve Hochtief as the defect arose from the implementation of design, not the design itself.
- Problems with the decision?

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No oral modification clauses

- Contracts frequently require variations to be made in writing before a contractor has an entitlement to payment.
- In the past, terms largely ignored. it wasn't difficult to argue that either an employer had waived the requirement of writing, or that he was estopped from relying upon that requirement.
- However in Rock Advertising Ltd v MWB Business Exchange Centre Exchange Centres (2018) the court has upheld a no oral modification clause.
- The court will be slow to find that the term is either waived or that the employer is estopped from relying upon that limitation.
- Contractors should be ensure a proper paper trail before variations are actioned. This will ensure risks to a contractor for non-payment, and the consequent risks to a project caused by non-payment can be avoided.

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Limitation Clauses

- Types of limitation clauses
  - Totally exclude or partially limit liability for certain events / types of loss
  - Limit recoverability to a certain financial amount
  - Time Bars : require claims to be made in certain timeframes
  - Net contribution clauses : reduces liability by reference to contribution by others
- General philosophy – save for consumer contracts, the law permits parties to agree on the contractual terms together
- Certain types of loss and damage cannot be excluded – i.e. death and personal injury
- In commercial contracts there are rules for incorporation and for interpretation; the law is more restrictive on total exclusions of liability and more relaxed on contracts which purport to impose a financial limit on recoverability and/or certain heads of loss.
- Excluding quality requirements, contrast :
  - *Saint Gobain Building Distribution Ltd (T/A International Decorative Surfaces) v Hillmead Joinery (Swindon) Ltd WITH*
  - *Shepherd Homes Ltd v Encia Remediation Ltd*

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Collaborative Working & BIM – Insurance

- BIM permits modelling / mock ups / collaboration across the design team.
- Has its own Quality Assurance Regime and Checks
- Utilisation of Advanced Technologies ahead of construction taking place can assist
- BIM risks
  - BIM has the potential to blur traditional responsibilities, making risk allocation more difficult.
  - BIM inherently brings IT/cyber risk. The greater the electronic data and the more parties using it.
  - Collaborative working makes it harder to safeguard intellectual property rights over shared data.
  - The more uses the BIM model is put to, the greater the risk. Where the BIM model is used for life cycle purposes, liability could extend long after completion.

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Project Bank Accounts

- Ring fenced bank accounts whose sole purpose is to act as a channel for payment on construction projects to ensure that key members of the supply chain are paid on the contractually agreed dates.
- The employer maintains adequate funds in the account to cover work in progress and other project commitments.
- Payments are made directly from the account to key members of the supply chain
- Related to Quality – YES
  - If all the supply chain get paid on time; there will be less payment related failures, meaning the supply chain will be consistent and continuous

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Construction (Retention Deposit Schemes) Bill 2017-2019

- Private Members Bill introduced 9 January 2018.
- Scheduled for Second Reading on 26 October 2018.
  - Very early stages; thereafter Committee, Report, Third Reading and House of Lords Stages.
- Seeks to impose a mandatory deposit scheme for cash retentions in the construction industry, similar to the tenancy deposit scheme currently used in the property rental sector.
- Whilst Private Member Bills rarely pass into law, this type of scheme is central to the government's ongoing review of retentions.
- Risks:
  - Increased accounting burden.
  - Reduced autonomy over such funds.
  - Fiduciary duties?

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