

New Models of Construction Procurement

Don Ward

Chief Executive, Constructing Excellence

Chair, Cabinet Office Trial Projects Working Group

<https://www.gov.uk/government/collections/new-models-of-construction-procurement>



Constructing Excellence

Not-for-profit best practice and knowledge transfer organisation based in the UK

A 20-year old platform for industry improvement to deliver better value for clients, industry and users through collaborative working

“Excellence through Collaboration”



Now part of the BRE Group under the BRE Trust



BRE making a
positive difference
in the built environment
since 1921

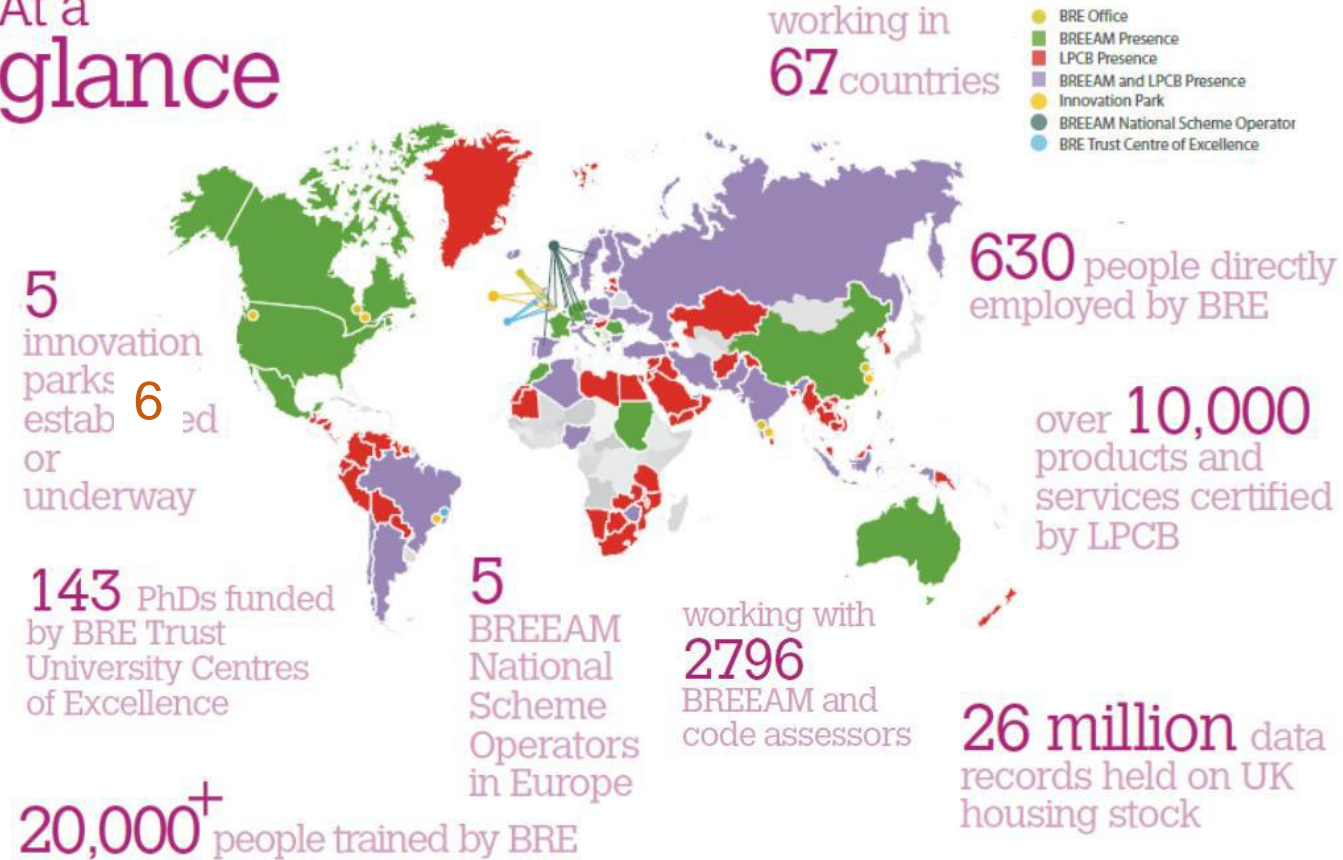
Our mission:

To build a
better world
together

Our vision:

To make an
unmistakable
imprint on
a highly
regarded built
environment

At a glance

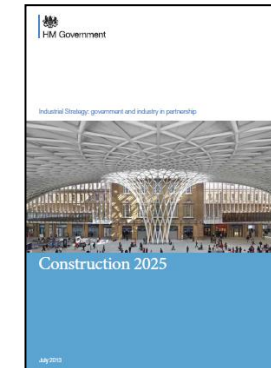
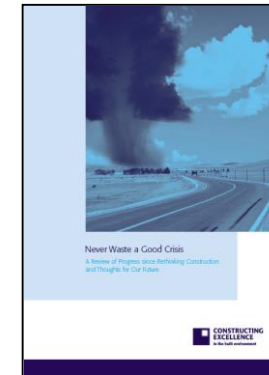
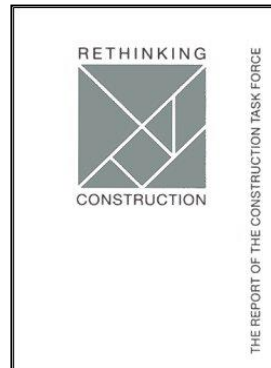
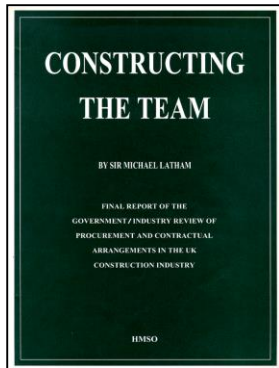


brebuzz.net



UK construction improvement can be charted by a number of key reports

Latham.....Egan.....Olympics.....'Crisis'.....2025...



1994.....1998.....2006.....2010.....2013...

Our member theme groups explore the burning issues for our movement.



**Collaborative
working champions**



Digital construction



Funding & finance



Procurement



Sustainability



Asset management



Nuclear sector



**CEHE universities
network**

New Chairs summer 2017



Phil Wilbraham

Director of Expansion,
Heathrow Airport Ltd

Infrastructure Clients
Group, Chair 'Project 13'
Capable Owner



Mark Farmer

Founding Director, Cast
Consultancy

Author, *Modernise or
Die, the independent
Review of the UK
Construction Labour
Model*, CLC, 2016



David Whysall

Head of National Cost
and Commercial
Services and
Infrastructure (South),
Turner & Townsend

G4C Chair 2008-2010



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Our updated vision

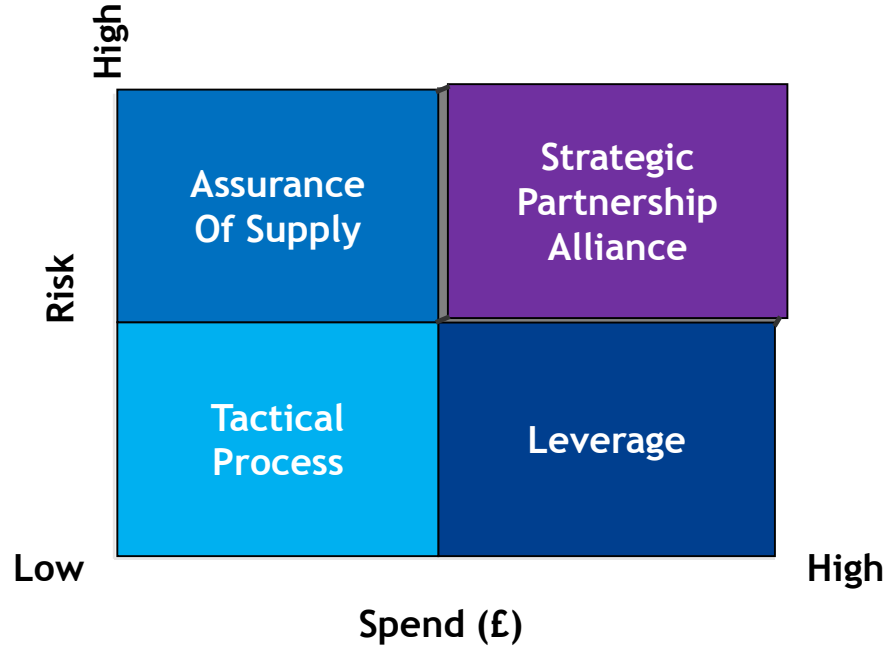
“Positively disrupting the industry delivery model to achieve a transformation in performance”

Enabling **a new delivery model**:

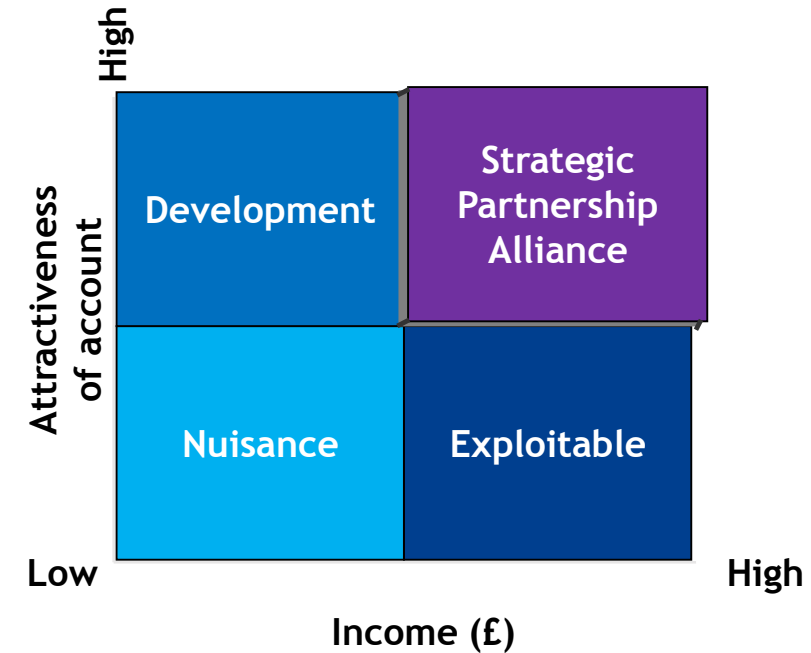
- A **client-led transformation** by procuring for outcomes
- Increased **standardisation and pre-manufactured content**
- **Digitally enabled integrated teams** working **collaboratively** with long-term relationships and aligned commercial arrangements



Customers' and suppliers' viewpoints

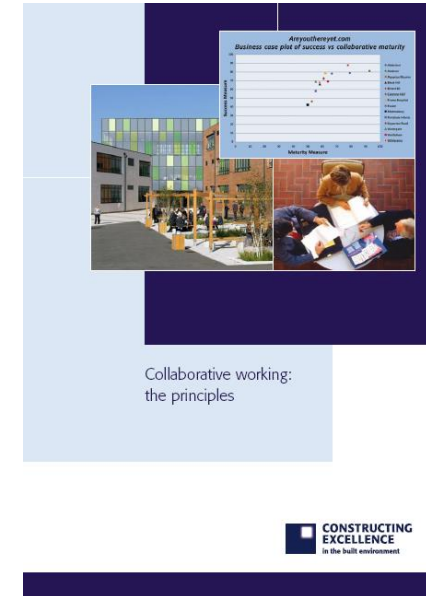
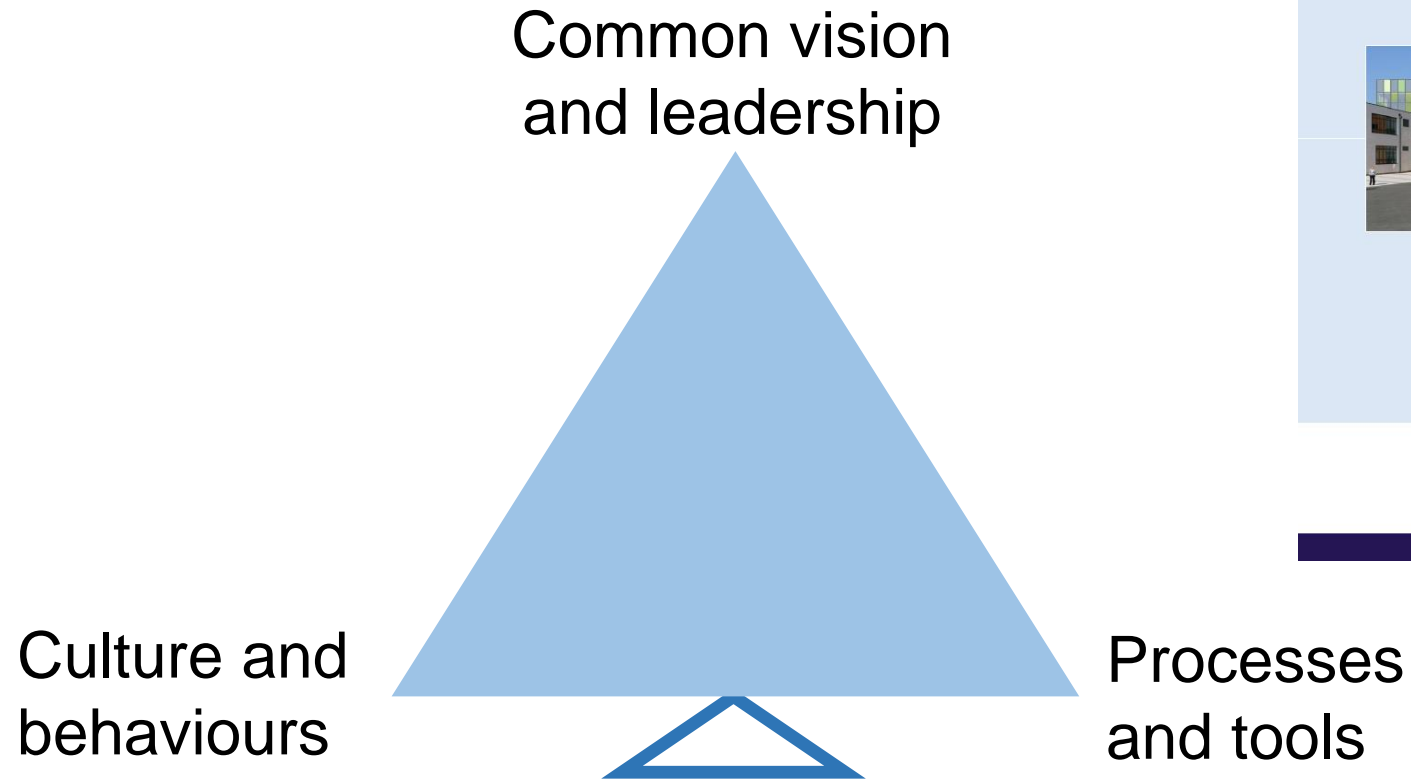


Customer



Supplier

Three overriding principles of collaborative working



There are 6 critical success factors for collaborative working

Early involvement

Selection by value

Common processes and tools

Measurement of performance

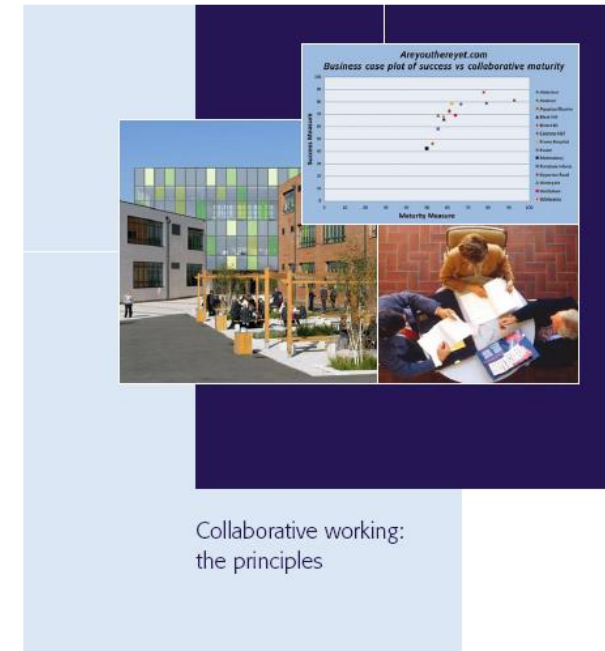
Long-term relationships

Aligned commercial arrangements

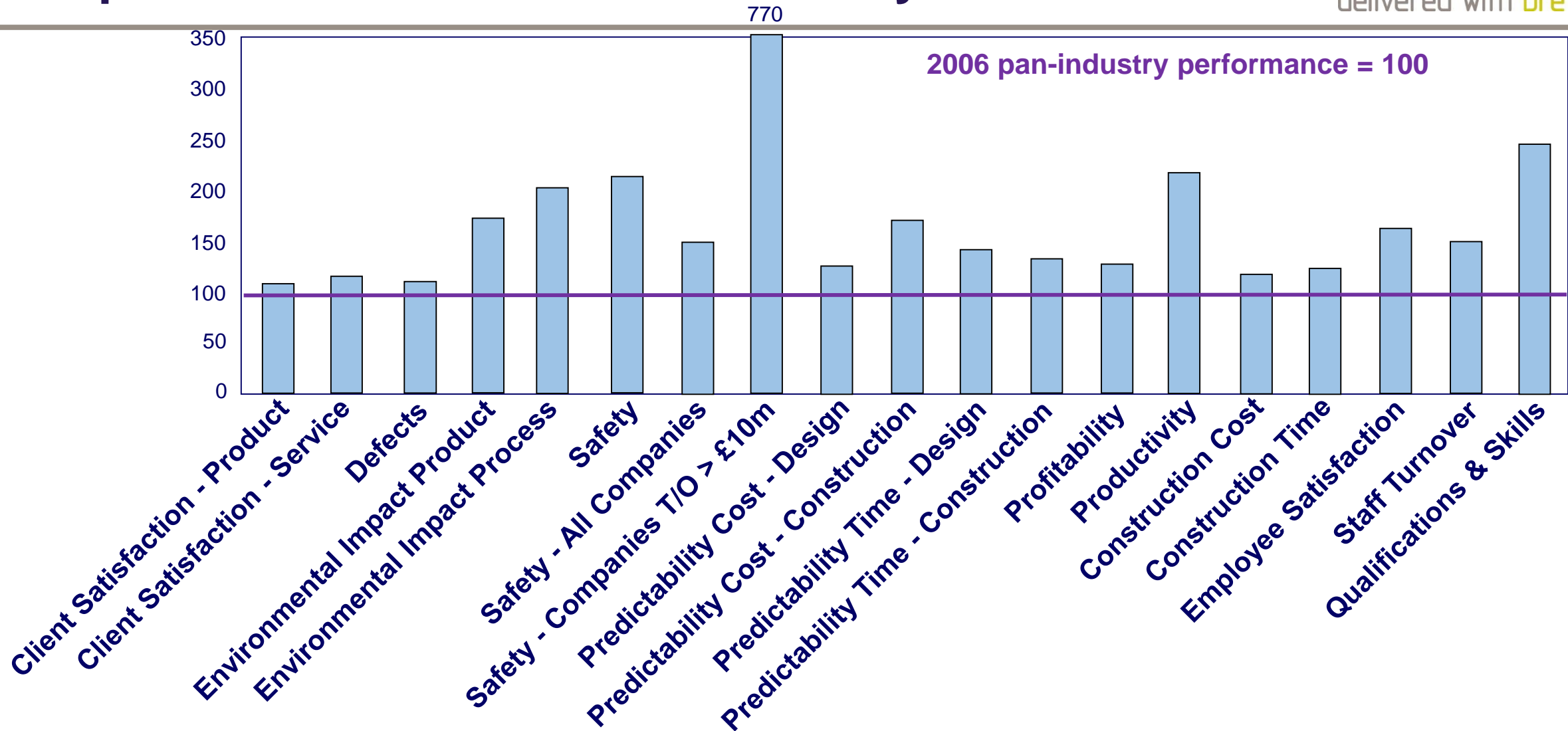
} **BIM, continuous**

} **improvement**

} **=> lean**



Demonstration projects out-performed the rest of the industry



Influencing the mega projects of today to improve the industry of tomorrow

and setting the bar ever higher for the next one



BP Andrew



T5 Heathrow



London
2012



Crossrail



Thames
Tideway



Hinckley
Point C



HS2



Palace of
Westminster

Government Construction Strategy

New models of procurement, 2014

Three modern methods:

- Two-stage open book
- Cost Led
- Integrated Project Insurance

All feature early supplier engagement, transparency of cost, integrated team working, collaborative working

Trial projects programme on-going via CE

Adoption proven to contribute considerably to cost reductions

Cost certainty, better long-term value

Commended by the Chief Construction Advisor for wide adoption



Trial projects

Rye Harbour
Circle Housing
Upper Mole
RM Lymington
Cookham Wood
Archbishop Beck
New Prison North Wales
Project Horizon

Property Services Cluster –
IESE
Supply Chain Management
Group
Anchor Property
Dudley College Advance II
Connect Plus
St Nicholas Primary School
Shakespeare Primary



Ministry
of Justice



Education
Funding
Agency



Environment
Agency

Connect Plus



Ministry
of Defence





Property
Services
Cluster

For the Public Sector



Dudley
College

Two-stage open-book procurement

	PROJECT	SAVINGS	OTHER BENEFITS
	Cookham Wood Youth Justice Board - Ministry of Justice	20%	Cost and programme certainty; lean programming; Innovation through collaboration; reduced prospective operating costs
	Project Horizon	17% (+16%)	Improved whole life value; improved warranties and quality control; employment and skills commitments; increased recycling/reduced landfill
	Supply Chain Management Group, Hackney/Haringey	14%	Improved end user satisfaction; reduced defects; reduced waste to landfill, carbon emissions; improved employment and skills
	Archbishop Beck school, Liverpool	20%	Improved programme certainty; innovations through early engagement of the team; improved local employment and skills commitment

Cost-led procurement



PROJECT	SAVINGS	OTHER BENEFITS
Rye Harbour, Environment Agency	6%	Streamlined up-front procurement processes continuous development of the project team innovation through ECI and collaborative working significant time savings
Upper Mole, Environment Agency	15% targeted savings	Driving innovation through the supply chain integration and collaborative working benefitting the local labour force and economy
Anchor Property Delivery Transformation	9%	Improved services for customers and efficiency supply chain integration continuous improvement of client skills incl cost, risk & value engineering
North West New-build Housing (Procure Plus)	20%	6 previously unemployed local residents all achieved NVQ qualifications and then supported into future employment




Measured benefits


- Capital cost savings in the typical range 10% - 20%+
- Client outcomes: faster delivery, better quality and value in use, lower whole life costs, higher client satisfaction, environmental benefits, social value incl. more apprenticeships
- Supply chain benefits including local employment, fair payment, supply side satisfaction with client performance, improved project team relationships and job satisfaction, better/more reliable risk management, better workloads, profitability, reputation
- Process benefits including better collaboration, early involvement, innovation, and BIM deployment to 'Level 2'




<http://constructingexcellence.org.uk/resources/cabinet-office-trial-projects/>



HM Government




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in the built environment



HM Government



CONSTRUCTING EXCELLENCE
in the built environment

 HM Government				
Total project: Rye Harbour		New delivery model / procurement route: Cost Led Procurement		
Cost savings achieved: Achieved cost savings of 8% on the out-turn cost, worth £800,000				
Other key benefits achieved: Streamlined the up-front procurement processes, continuous development and improvement of the Environment Agency's client capability, drove innovation through the adoption of ECI and collaborative working principles				
Trial report sequence:	Kick off meeting	Brief / Team Engagement	Decision to Build	Build and Occupy
Cost saving basis:	Outline saving aspiration	Challenging cost target	Award cost	Outturn cost

Trial project details:

Project title Rye Harbour Western Training Wall

Client department Waterways / Environment Agency

Project value £6.6 million (pre-savings)


Form of project Flood defence – replacement of failing structure, steel sheet pile retaining wall providing navigable harbour entrance channel


Main contractor Jackson Civil Engineering (JCE)

Lead designer Halcrow EC Harris – EOC Project Manager
Acorda – cost consultant
Arcelor Mittal – steel sheet pile supplier
Team Van Oord in partnership with Jackson's Civil Engineering

Key suppliers Commercial Marine and Piling (subcontractor)
Norme Project Manager

Executive summary:
The Rye Harbour Western Training Wall project involved the replacement of a failing structure / steel sheet pile retaining wall as part of the Environment Agency's flood defence programme. The Environment Agency adopted the Cost Led Procurement route on the Rye Harbour project. This enabled them to generate savings of 8%, and furthermore, it also enabled them to go from Business case to Completion in fourteen months, essentially cutting the programme time in half. Due to the funding requirements on this project, these savings in cost and time were essential to the successful delivery of this project.



 HM Government				
Procurement route: Two Stage Open Book under TPC2005		Achieved: 15% (in addition to 10% achieved in procuring long term contract)		
Other key benefits achieved: Risk and quality control, additional employment and skills commitments through increased recycling/reduced landfill, creation of integrated project				
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
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Procurement route: Two Stage Open Book under PPC2000		Achieved: 14% (in addition to 10.5% achieved through procuring the framework)		
Other key benefits achieved: Risk and quality control, additional employment and skills commitments through increased recycling/reduced landfill, creation of integrated project				
Kick off meeting	Brief / Team Engagement	Decision to Build	Build and Occupy	
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Integrated Project Insurance




**CONSTRUCTING
EXCELLENCE**
 delivered with bre

Trial project: Dudley Advance II	New delivery model / procurement route: Integrated Project Insurance
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Cost savings targeted: 15% - 20%

Other key success criteria:


- Programme certainty at below Target Cost
- Highly efficient methods, including off-site manufacturing where best for project, and new methods of construction, eliminating waste in materials, processes and procedures
- Leading BIM methods and technologies from commencement
- Flexibility of the facility to be remodelled to meet future changes in demands and training methods

Stage at which first report will be published:	Kick off meeting	Brief / Team Engagement	Decision to Build	Build and Occupy
Cost saving basis:	Investment Target	Challenging cost target	Agreed Target Cost	Outturn cost

Trial project details

Project title	Dudley College Advance II (formerly "CABTech")
Client department	Dudley College (with regional growth funding via the Black Country LEP)
Project value	£11.855m
Form of project	New Build Educational Facility
Independent facilitator (IF) and risk assurers (TIRA/ FIRA)	Integrated Project Initiatives Technical: SECO (Belgian) / BLP Financial: Rider Levett Bucknall
Alliance Members	Dudley College Derry Building Services: specialist Fulcro: engineering services and project coordinator Metz: architects Pick Everard: structural Speller Metcalfe: constructor
IPI Brokers	Griffiths & Armour
Other Key Suppliers	Adstone: steelwork BC Roofing: hanger cladding H&H: cladding and glazing Glosofords: structural insulated panels Kone: lifts MSW: metal decking SDP: ceilings and partitions Terex Demag: hanger cranes Upnoor: thermally-active building structure

The IPI product



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    graph TD
      A((Construction All Risk)) --> B((Public Liability))
      B --> C((Cost Overrun))
      C --> D((Latent Defects))
      D --> A
  
```

**"Independent Facilitation
Technical and Financial Risk Assurance"**

1

Take-up of new models in 2016

Health (DH)	Procure 21+/22 frameworks worth £650-£750m
Education (ESFA)	£5B+ Priority Schools Building Programme using National, Regional and Modular Frameworks using 'CLP' with savings of up to 35%
Justice (MOJ)	£900M national and regional framework alliances using 2-Stage Open Book - plus integrating BIM
Homes (HCA)	CLP trial projects in sheltered and refurbishment, "widespread use" by RSLs
Defence (DIO)	Trial Project of 2-Stage Open Book through the Southern Construction Framework. National and Regional frameworks are suitable for CLP and BIM integration
Environment Agency	Currently using CLP on a flood alleviation scheme and nominating 3 rd trial
Highways England	Widespread use of 'early contractor involvement'
Local government	Frameworks using the recommended principles worth £1.5B in the last two years, eg Cabinet Office audited added value benefits and savings from SCF £30-£40Mpa



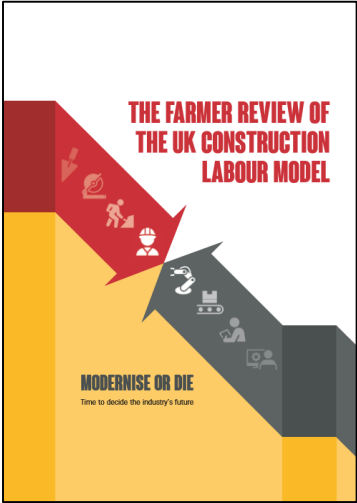
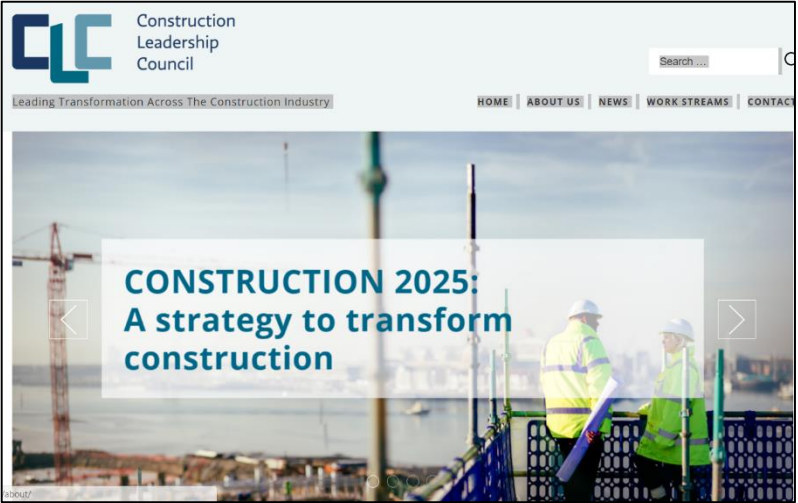
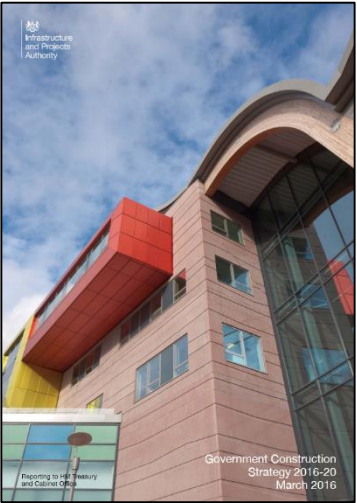
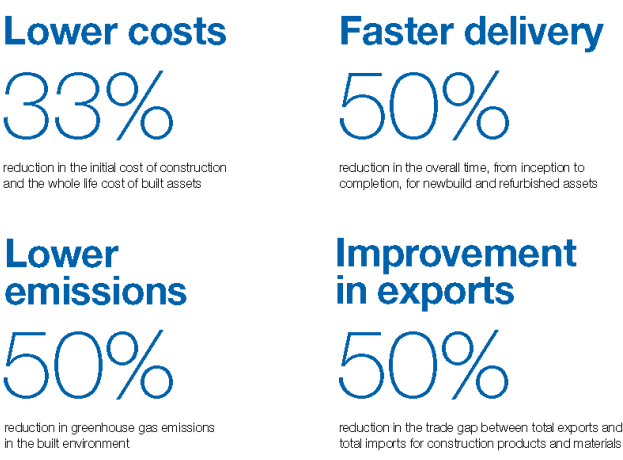
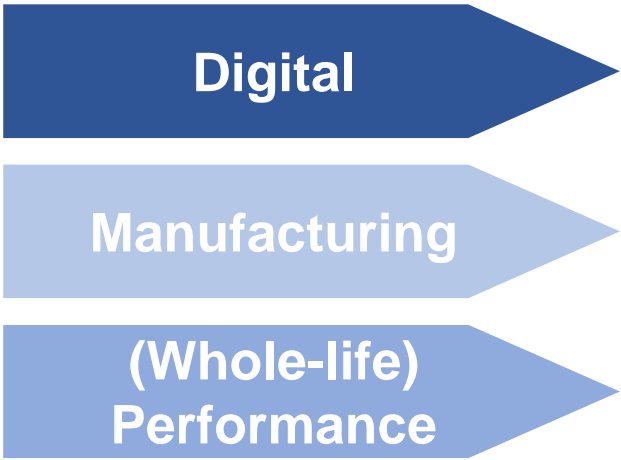
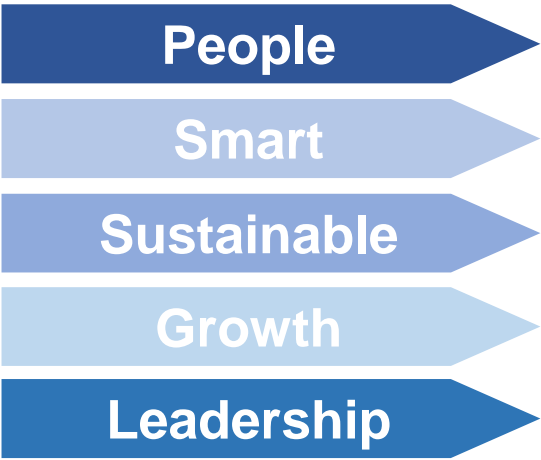
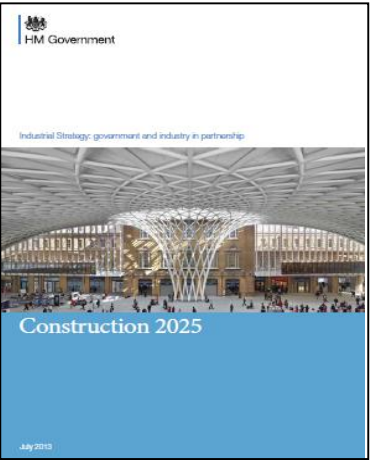
“The New Models of Construction Procurement are applicable across the housing, buildings and infrastructure sectors. They support the objectives of the Government Construction Strategy 2016-2020 and industrial strategy Construction 2025...

Two new models of construction procurement... have delivered positive outcomes for public sector clients, in terms of value, cost (savings of 6%-20%+), time, quality, sustainability and social value as well as improved productivity. **They are recommended for continued widespread use in the public sector.**

A third new model (Integrated Project Insurance) shows promise, and we will continue to review the evidence of trial projects of this model as it develops, to build the evidence base from which to inform future recommendation.

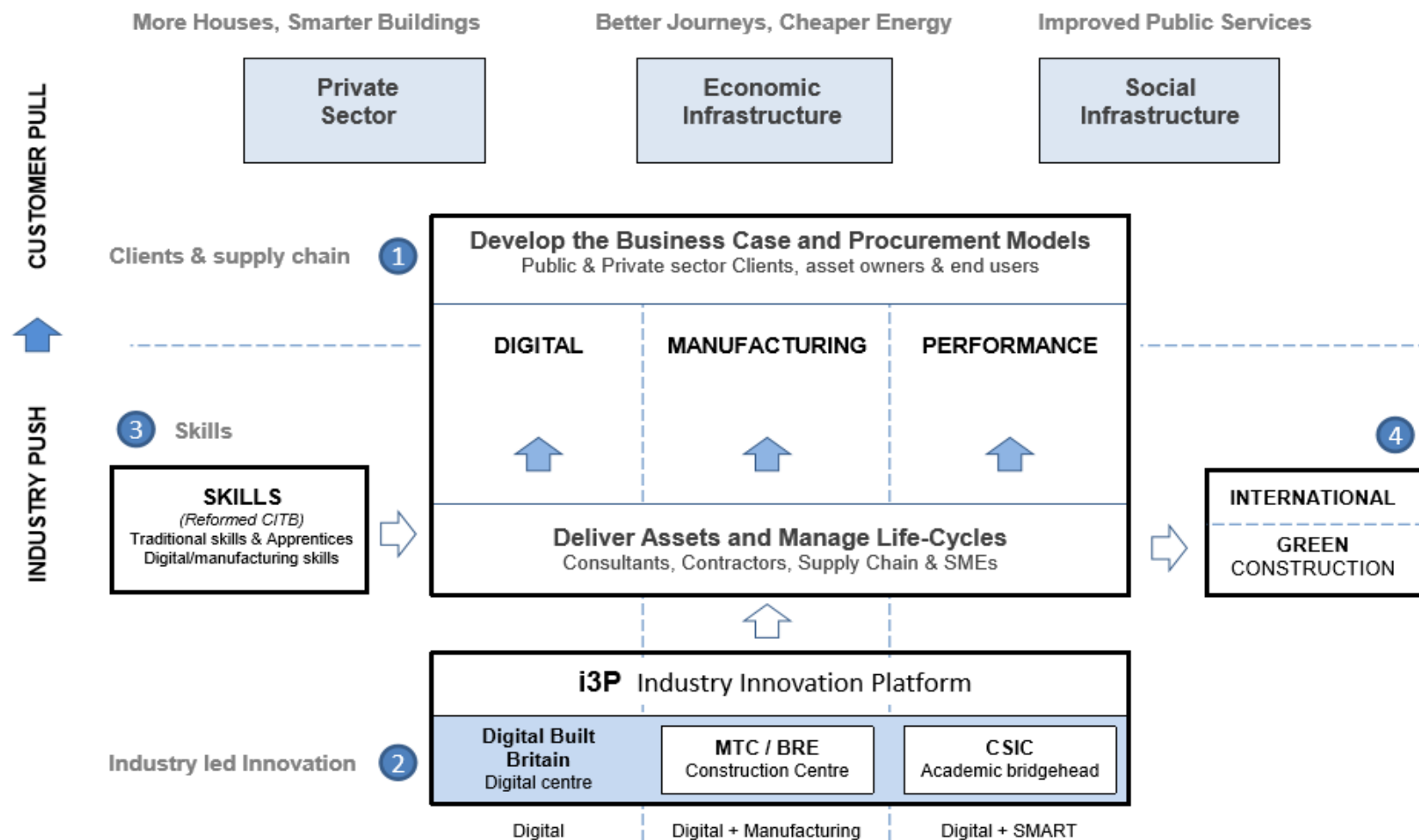
Clients wishing to consider any of these three new models should follow the guidance available on the IPA website, which is accompanied by a range of case studies. **The government’s Crown Commercial Service has included capability in the new models as one of the core competencies expected of tenderers for its latest frameworks**, they are also included in our Project Initiation Toolkit.”

Emerging Industrial Strategy 2017



A sector deal ?

CLC Sector Deal Strategy



Above all, customers want value and we need to understand how clients and users measure it

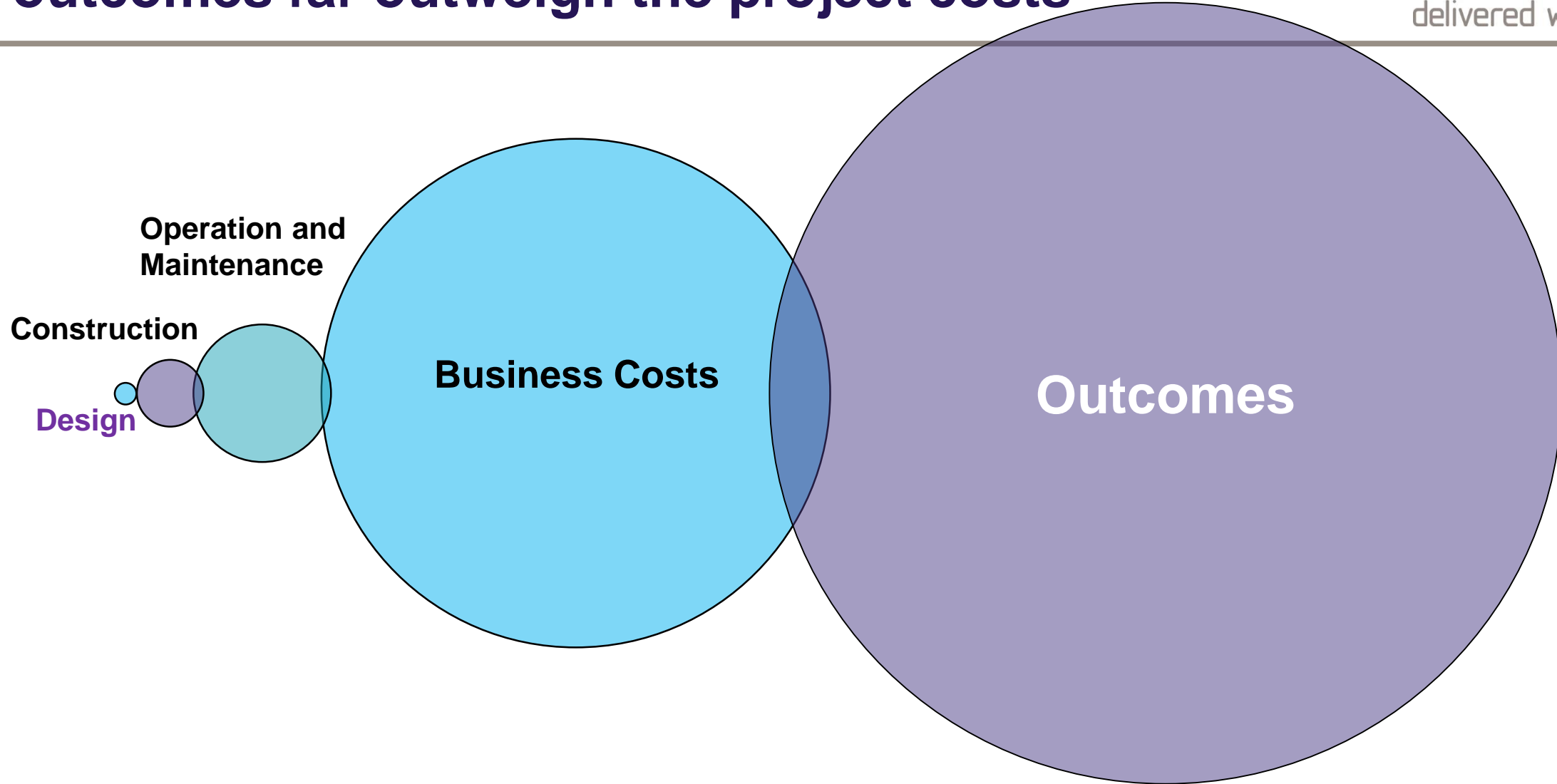
(£, happy residents, CO2, time, social value etc)

$$\text{Value} = \frac{\text{Benefit}}{\text{Cost}}$$

***More
For less***

**WHOLE
LIFE**

Above all, customers need value
- outcomes far outweigh the project costs



Award-winning cost-saving hospitals

P21+ Repeatable Rooms

6 principal contractors working in a non-competitive partnering ethos with virtual teams of clinicians, patients, academics, managers, designers and others to develop evidence-based healthcare designs that improve patient outcomes whilst delivering capital construction cost reductions.

The standard components already saved > £1M, potential £30Mpa savings based on the annual framework spend of £600m.

Aim is to beat the Department of Health's 14.1% cost reduction target.

The first project to use Repeatable Rooms yielded early savings of 9% with predicted savings > 20%.



Huddersfield Royal Infirmary

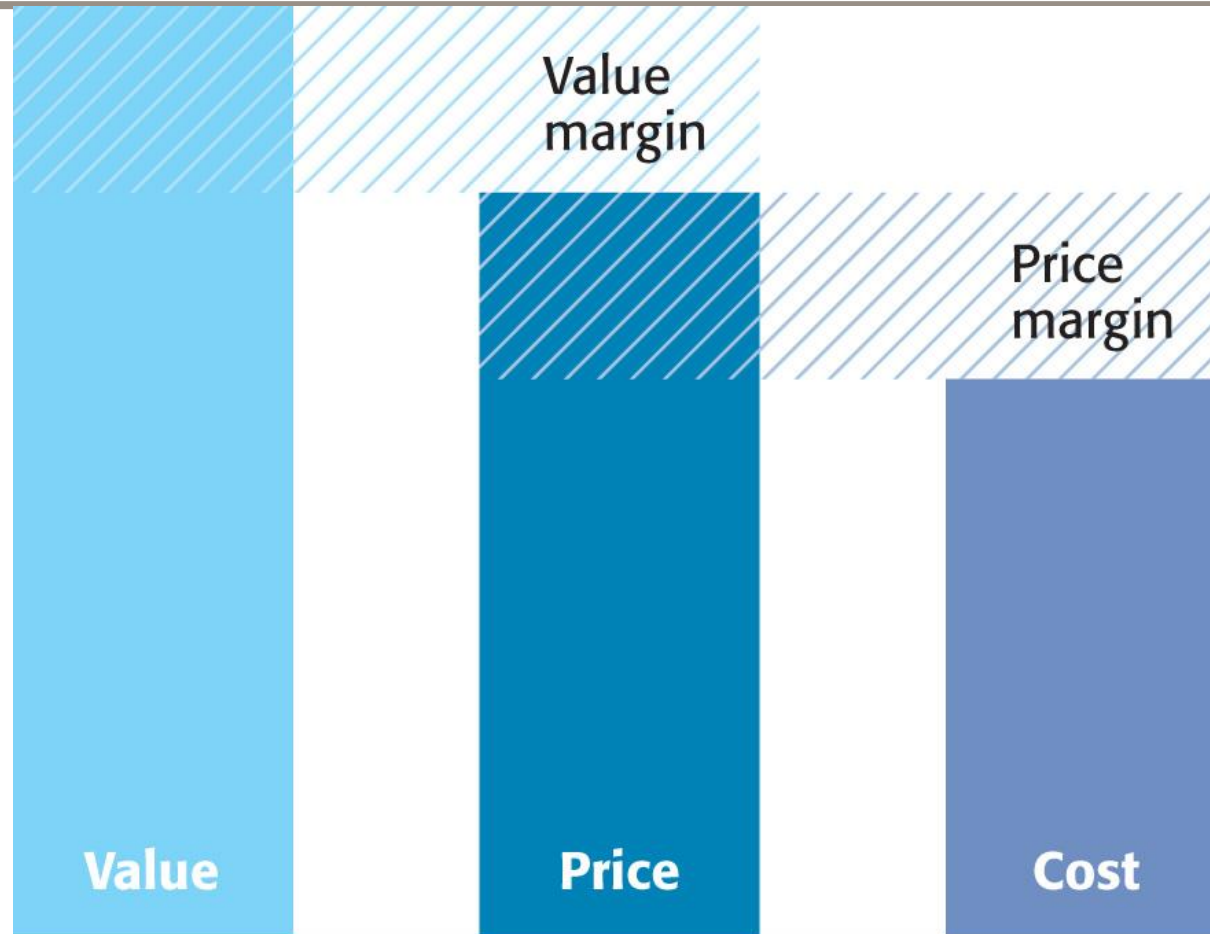
A collaborative relationship to provide long-term value by improving the condition of the estate and the operating environment.

The ProCure21+ framework gives the opportunity to improve and innovate, ensuring value for money and the highest clinical outputs for patients and staff.

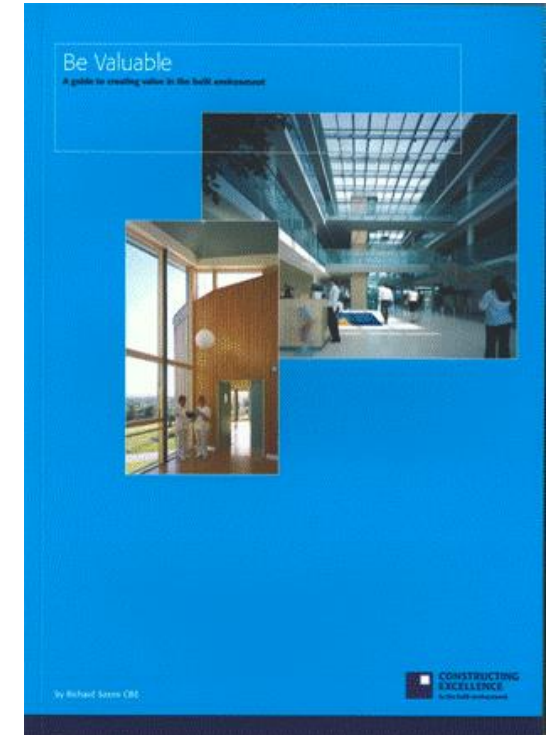
Operating theatre programme is generated cost savings of c16%.

Delivery programme reduced from 26 weeks to 17 weeks per ward, a 34% saving.

Opening space between value, price and cost



After Prof. Hennes de Ridder



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don.ward@constructingexcellence.org.uk

