

Collaboration in Construction Projects
WHY AND HOW?
Tuesday 23rd February 2016

COLLABORATION

The Constructing Excellence Model

PAUL GREENWOOD
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Constructing Excellence Collaborative Working Champions Group



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Member, Constructing Excellence
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GREENWOOD
CONSULTANTS

 **CONSTRUCTING
EXCELLENCE**

  ISO 11000
PC286

 london
constructing
excellence
club

PPCTPC
User Groups

 **CONSTRUCTION SIG**
Chartered Quality Institute

LONDON
excellence



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Agenda



Constructing Excellence

- The Organisation and the Movement
- Background and Activities
- Drivers for Change

Collaborative Working

- Three Overriding Principles
- Six Critical Success Factors
- The Move to Collaborative/Relational Models

Q+A



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Constructing Excellence

The Organisation

The single organisation driving change
in UK construction

The platform for industry improvement
to deliver better value
for clients, industry and users
through collaborative working

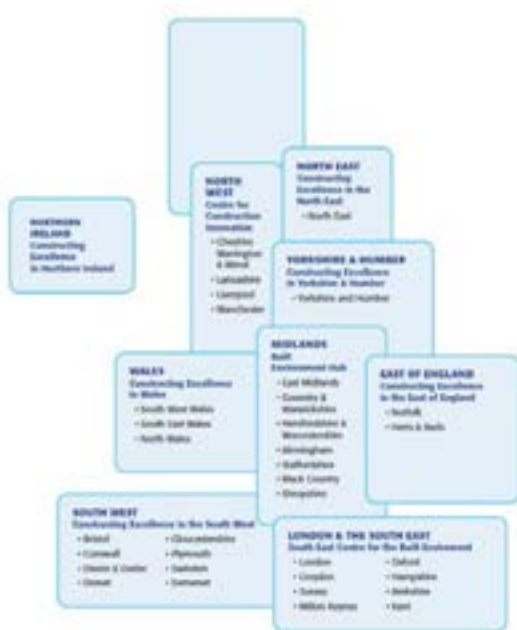
“BETTER TOGETHER”



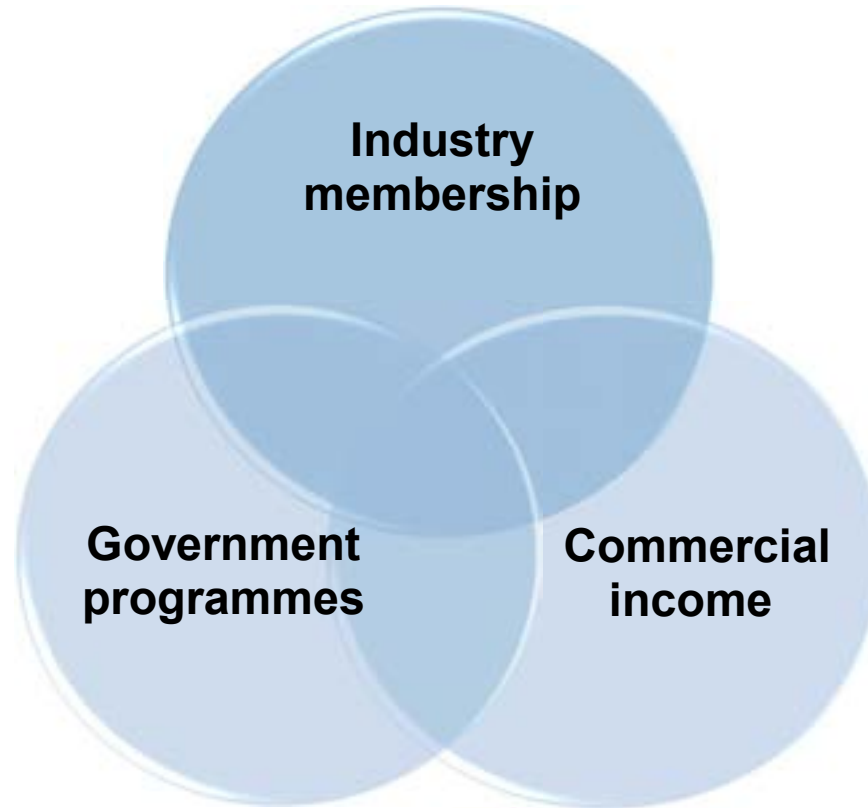
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The Movement

84 national members, 9 regional Centres
 35 local best practice Clubs, 718 G4C members
 10 partners in the CE International Alliance



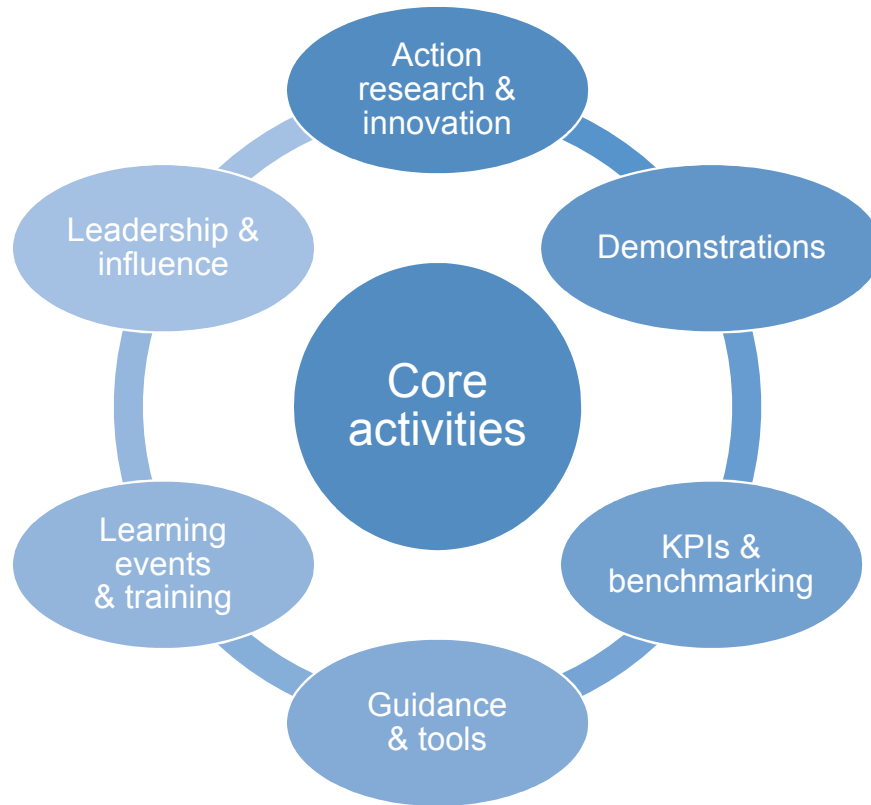
Brought together by the UK Government *- funding is now from industry*



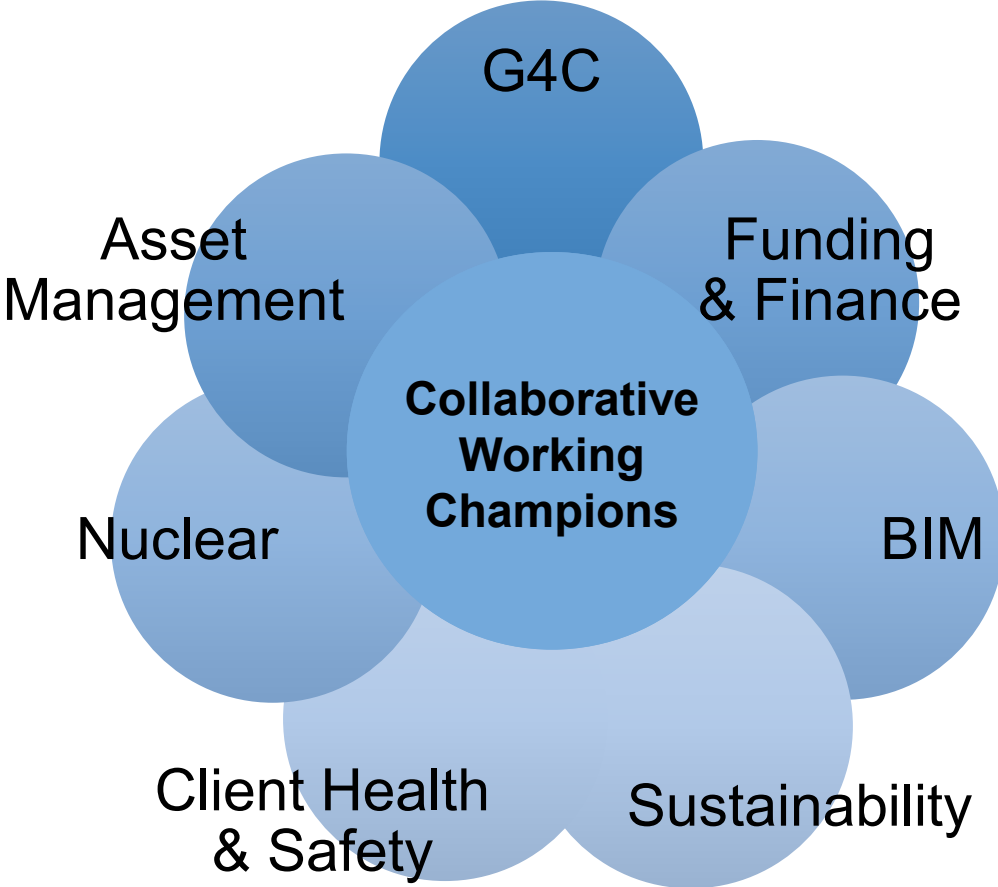
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Six Core Activities

- to support continual improvement



Current Theme Groups



National Corporate Membership

The home for intelligent informed clients who are at the heart of CE



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National Members



Clients

BAE Systems
BBC
Birmingham City Council
Crossrail
East Riding of Yorks Council
EDF Energy (NNB)
Environment Agency
Heathrow Airport
Highways Agency
Igloo Regeneration
Imperial College
Lambeth Living
London Underground
Magnox
Nationwide Building Society
Northumbrian Water
NuGen
ProCure 21
Quintain
Rochdale Boroughwide

Royal Mail Group
Sandwell MBC
SCAPE
Scottish Water
Westfield Group
Worthing Homes
Yorkshire Water

Contractors

Balfour Beatty
Bowmer & Kirkland
Cara
Dawnus
Higgins
Interserve
ITC Concepts
Keltbray
Kier
Mace
McGee
Morrison Galliford Try
Skanska
Willmott Dixon

Consultants

Advance
Aecom/Davis Langdon
Capita Symonds
CH2M Hill
Coaction Management
CWC
DBD
Faulkner Browns
Greenwood Consultants
Invennt
LCMB
Room4 Consulting
Synaps
Thurlo Associates
Trowers & Hamlin
Turner & Townsend
Waterman
Wragge

Manufacturers & Suppliers

4Projects
Astins
Coubari
Graphisoft
Knauf Drywall
Management Process Systems
Polypipe Terrain
Structural Timber Association
Tekla
Waterloo Air Products

Associates

BRE
British Property Federation
Chartered Institute of Building
Glenigan
Institute of Collaborative Working
UK Green Building Council
University of Reading



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Influencing the Mega Projects of Today to Improve the Industry of Tomorrow *- and setting the bar ever higher for the next one*



T5
Heathrow



London
2012
Olympics



Crossrail



Nuclear
power
stations



HS2



Drivers for Improvement - *charted by key reports*

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



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



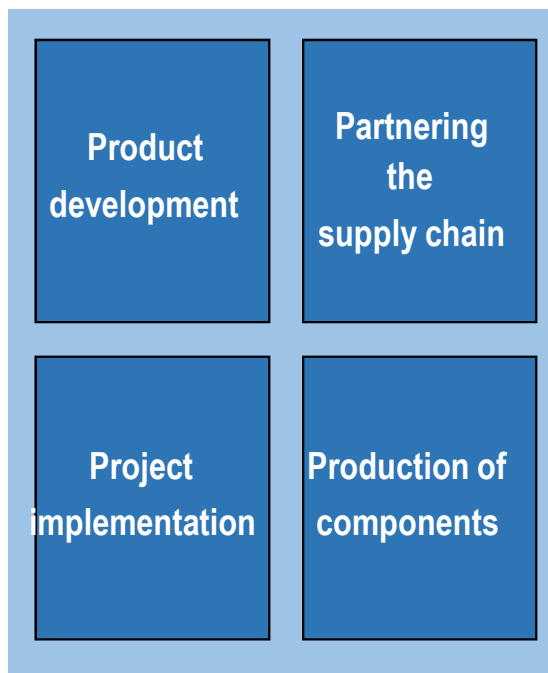
Rethinking Construction, 1998



5 Key drivers for change

- Committed leadership
- Focus on the customer
- Product Team Integration
- Quality driven agenda
- Commitment to people

4 Key project processes



7 Targets for improvement

- Capital cost -10%
- Construction time -10%
- Predictability +20%
- Defects -20%
- Accidents -20%
- Productivity +10%
- Turnover & profits +10%



Egan Inspired the Construction Industry Key Performance Indicators

Safety

Predictability

- Cost
- Time

Defects

Construction Cost

Construction Time

Profitability

Productivity

Client satisfaction

- Product
- Service

Environmental impact

- Product
- Service

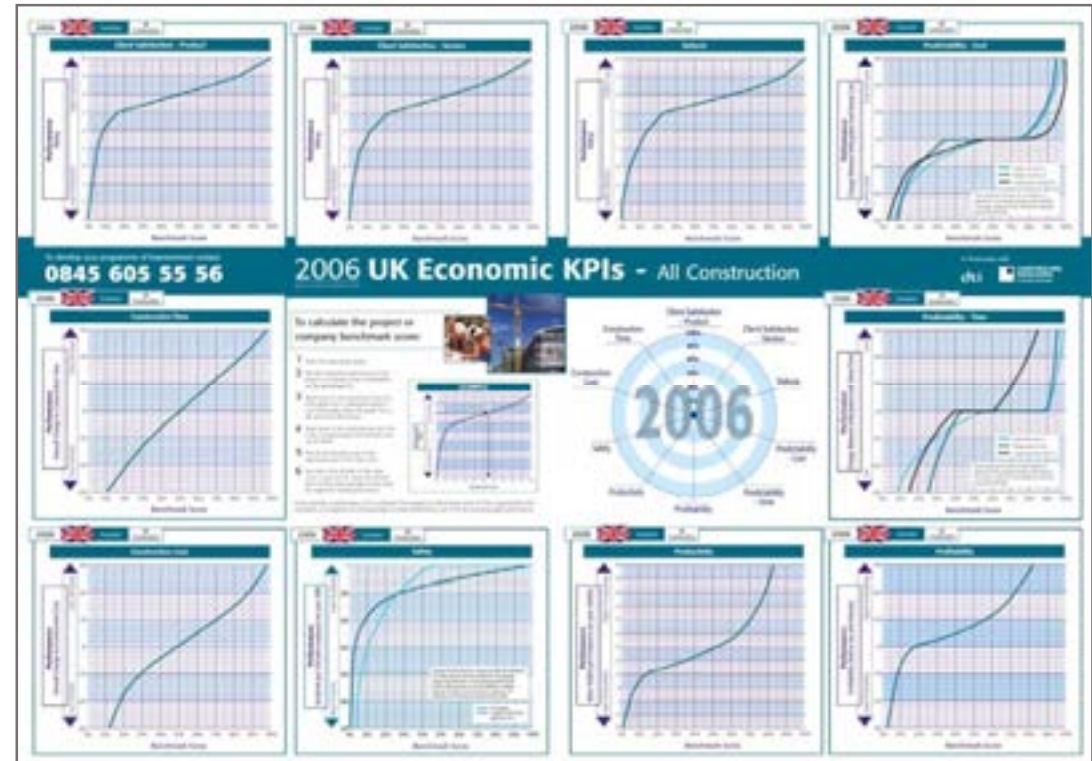
Product

Process

Employee satisfaction

Staff turnover

Qualifications & skills



Annual Industry Performance Report



Economic KPIs

Respect for People KPIs

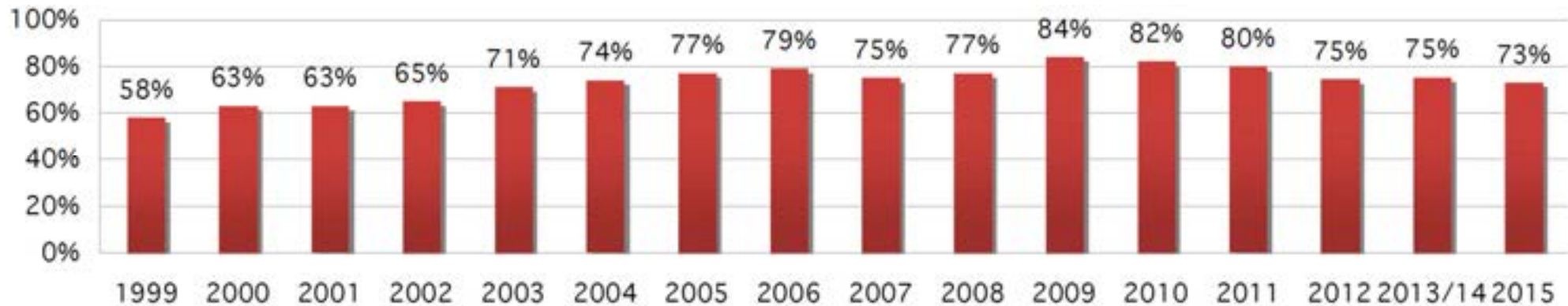
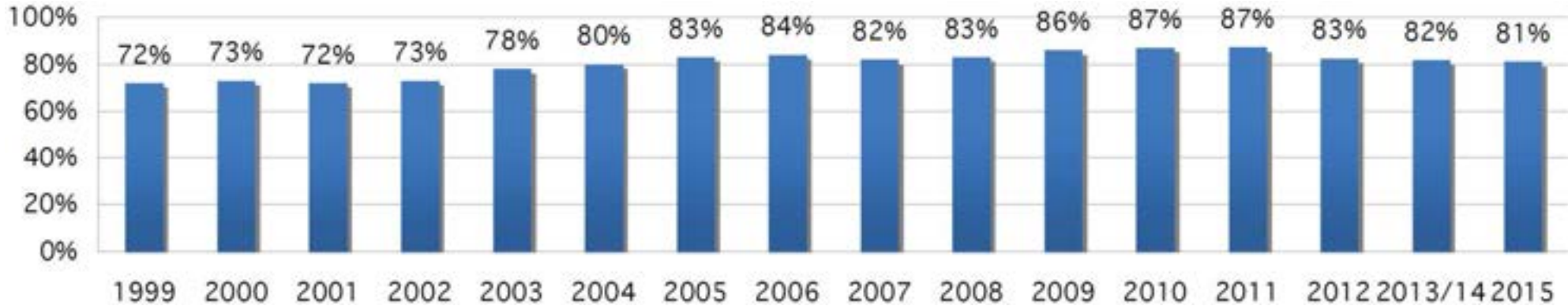
Environment KPIs

- All Construction
- All Housing
- All Non-Housing
- Construction Consultants



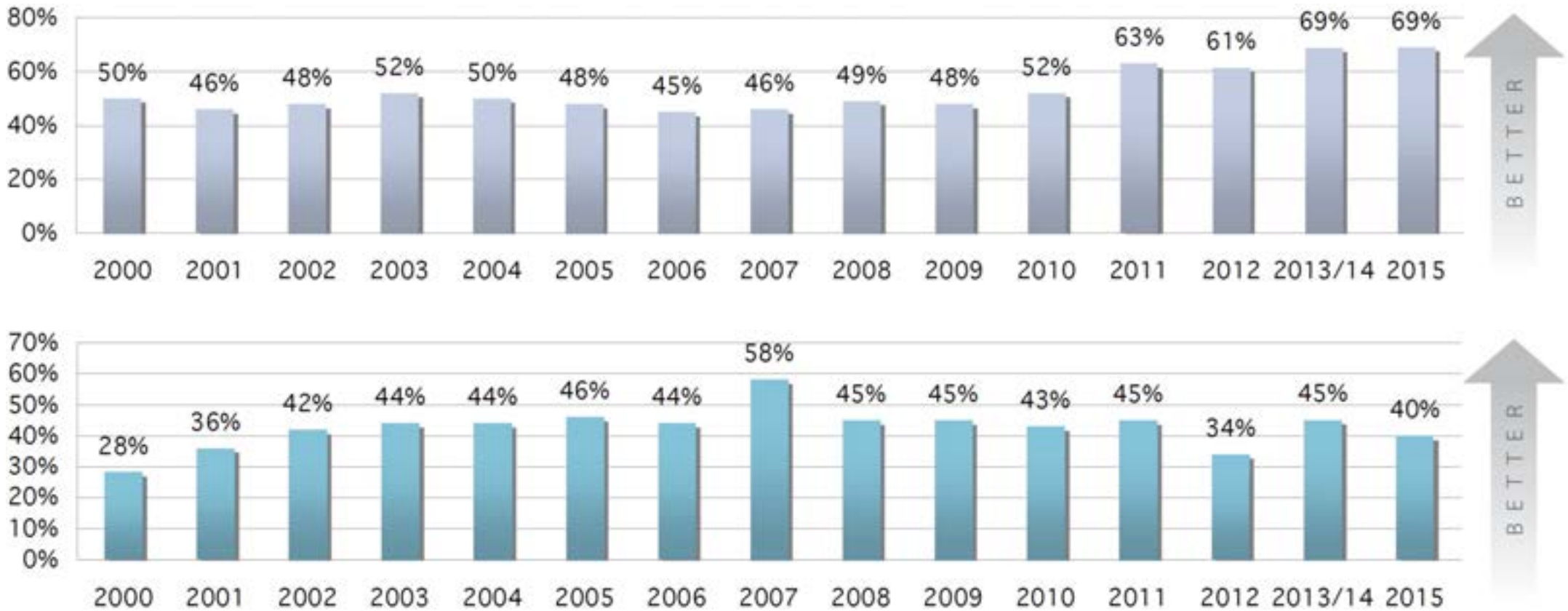
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Client Satisfaction with Product and Service



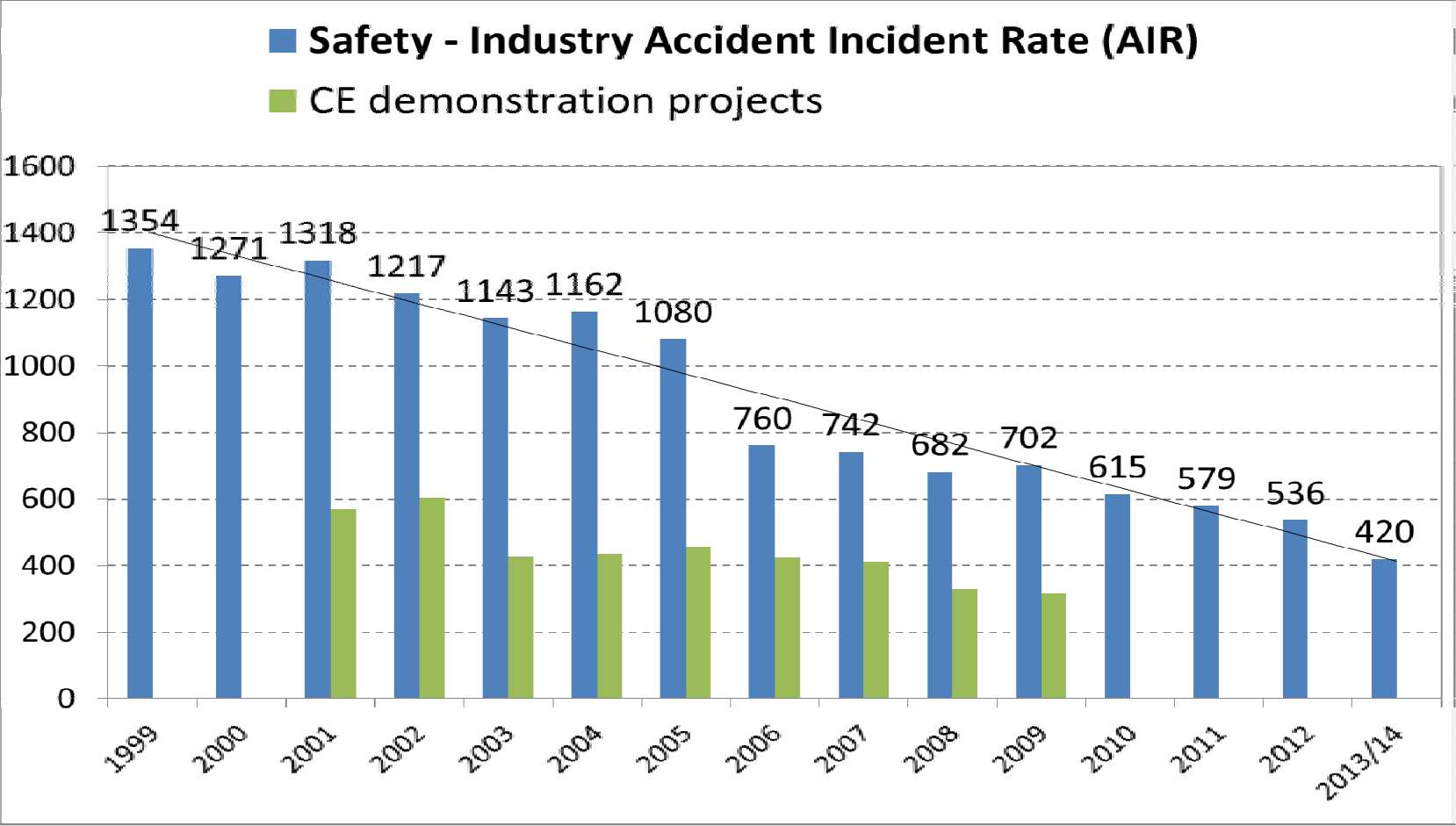
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Cost and Time Predictability

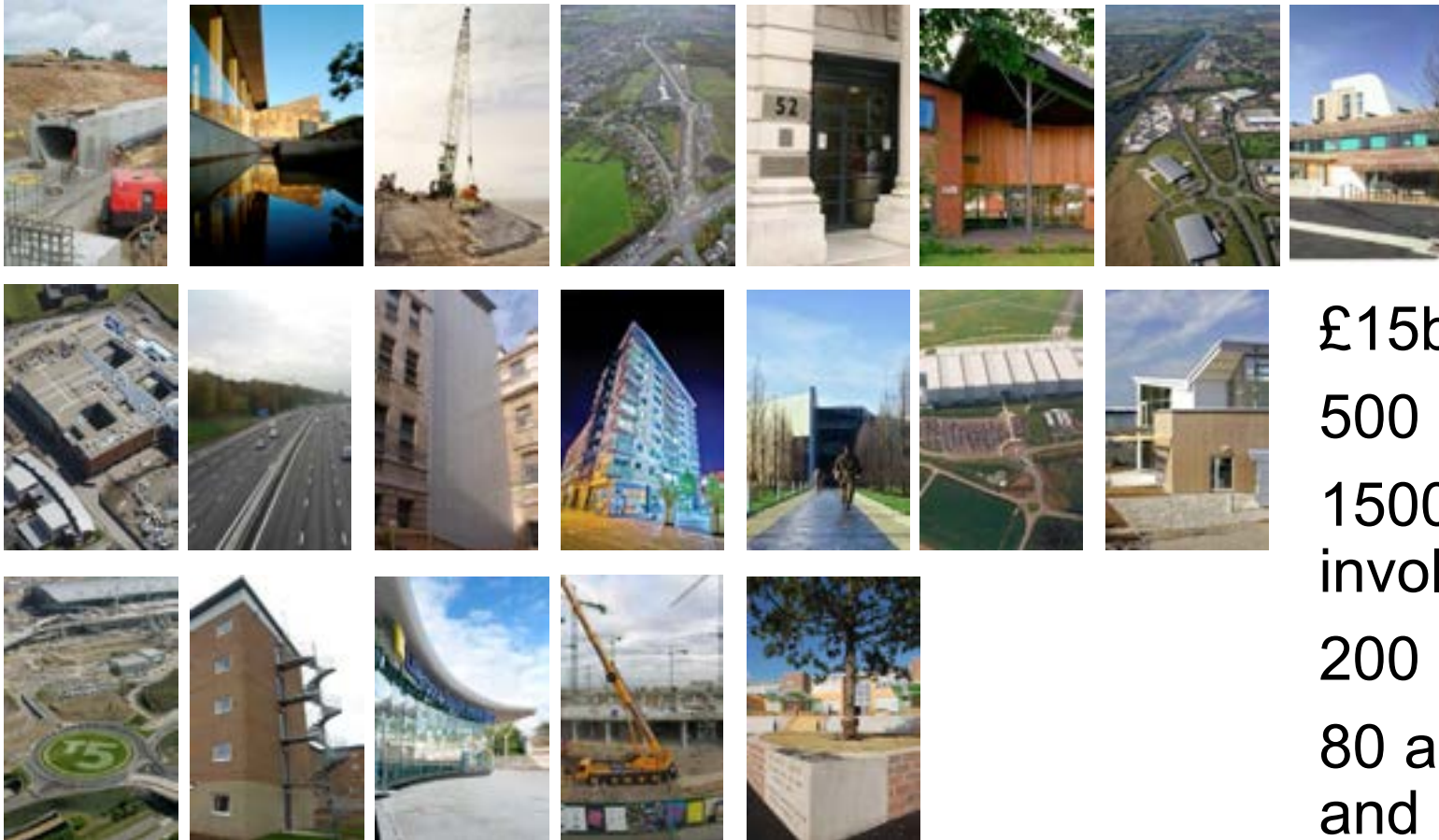


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The Industry has Improved its Safety



Over 500 Demonstration Projects since 1998 - all sectors, regions and sizes



£15bn project value
500 complete, c25 live
1500 organisations
involved UK-wide
200 case histories
80 associated reports
and publications

“Completed 61 weeks ahead of schedule”

“Saved over £1.4 million on whole life cost forecast “



“Vehicle movements cut dramatically - reducing carbon emissions by 85%”

“Level of recycled elements within the finished product, measured at 89%”

“Project completed £112k under budget”

“No reportable accidents”

“Reduced traffic management by around 6 months leading to huge cost/time savings”

“The project has saved 44% on actual costs compared to the target budget which equates to £500,000”

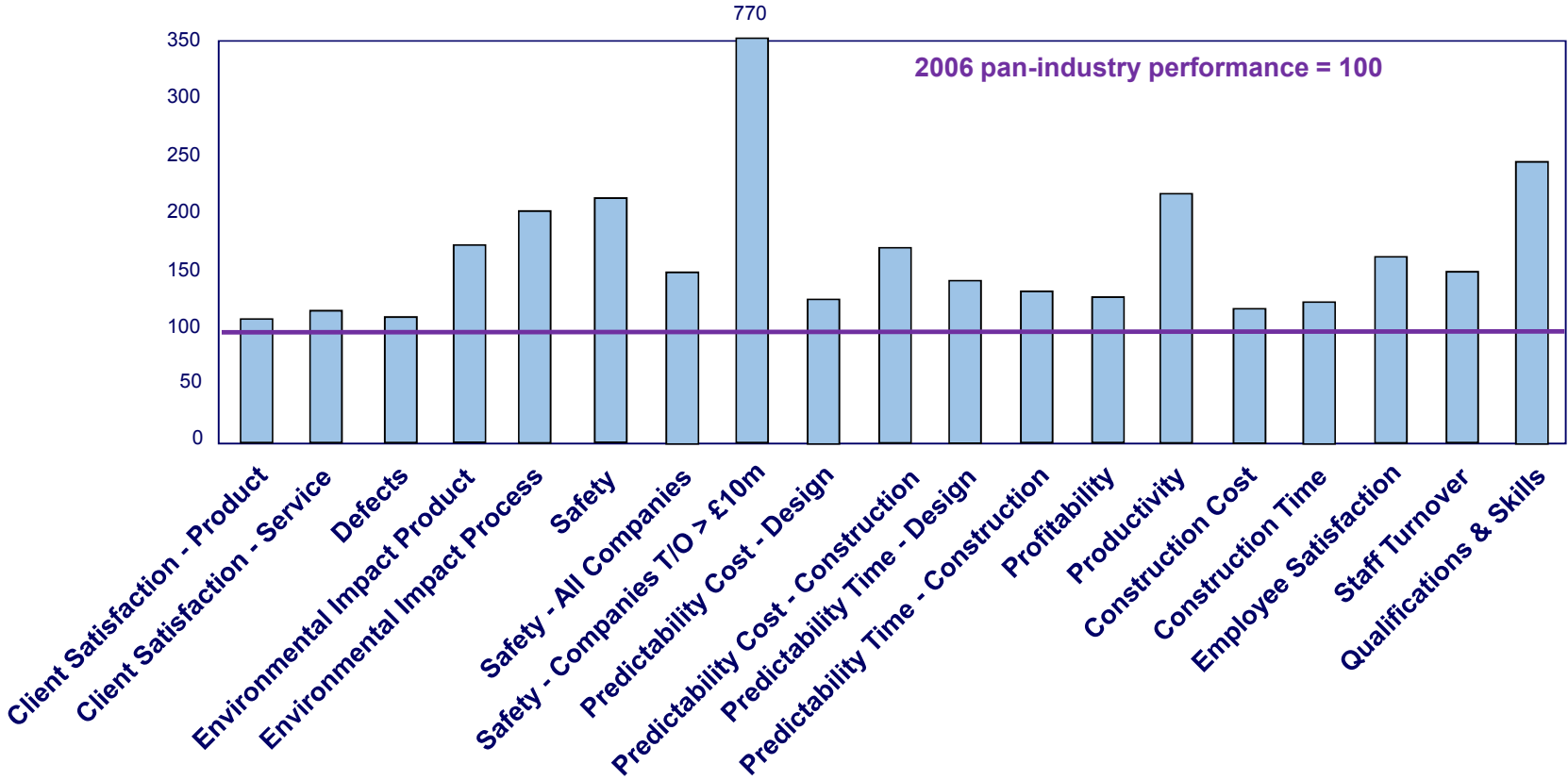
“The Bypass opened 16 weeks ahead of schedule and within budget”

“50k tonnes of waste diverted from landfill”

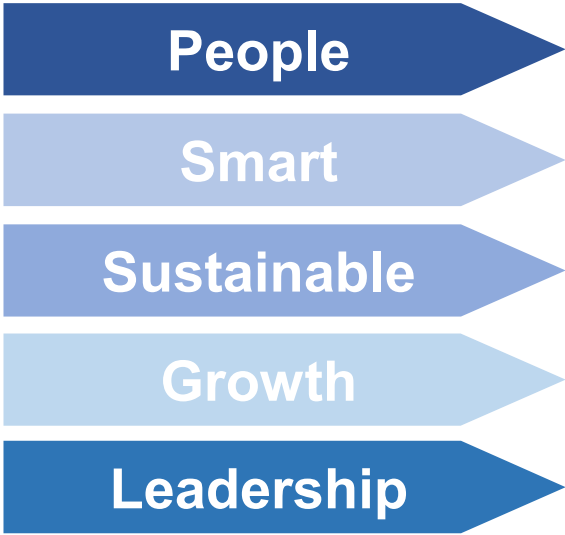
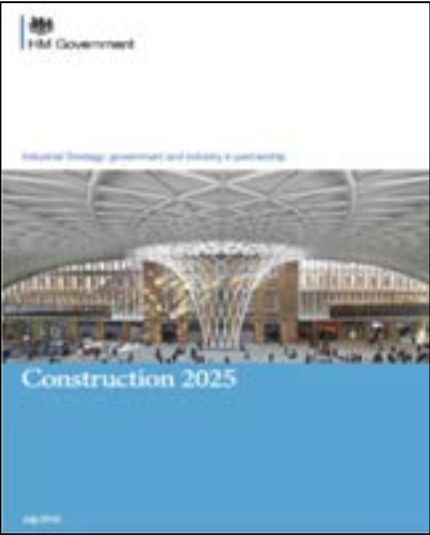


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Over 500 demonstration projects which out-performed the rest of the industry



Government-Industry Joint Construction Strategy 'Construction 2025', 2013



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

Sustainable

Lower emissions

50%

reduction in greenhouse gas emissions in the built environment

Improvement in exports

50%

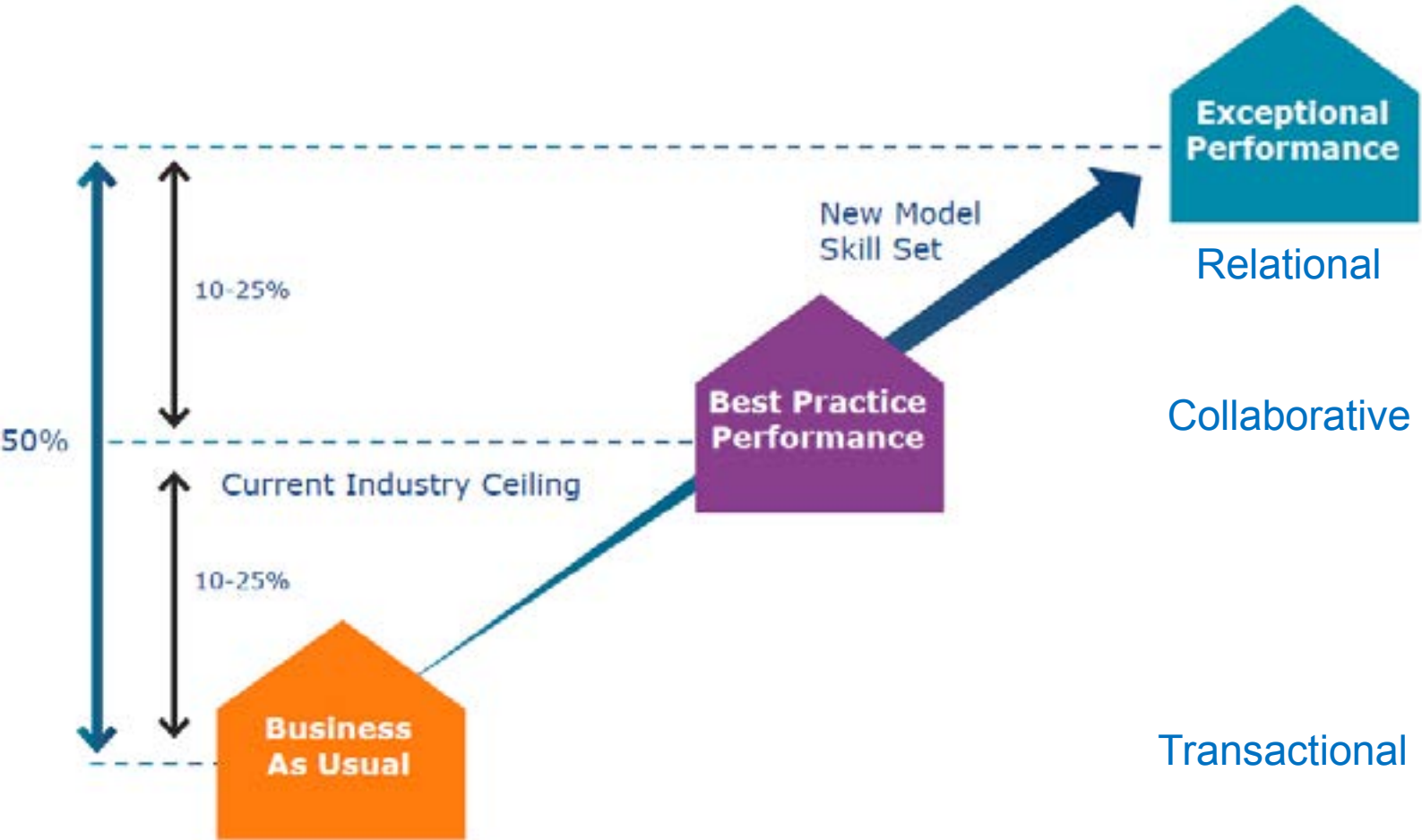
reduction in the trade gap between total exports and total imports for construction products and materials

Leadership

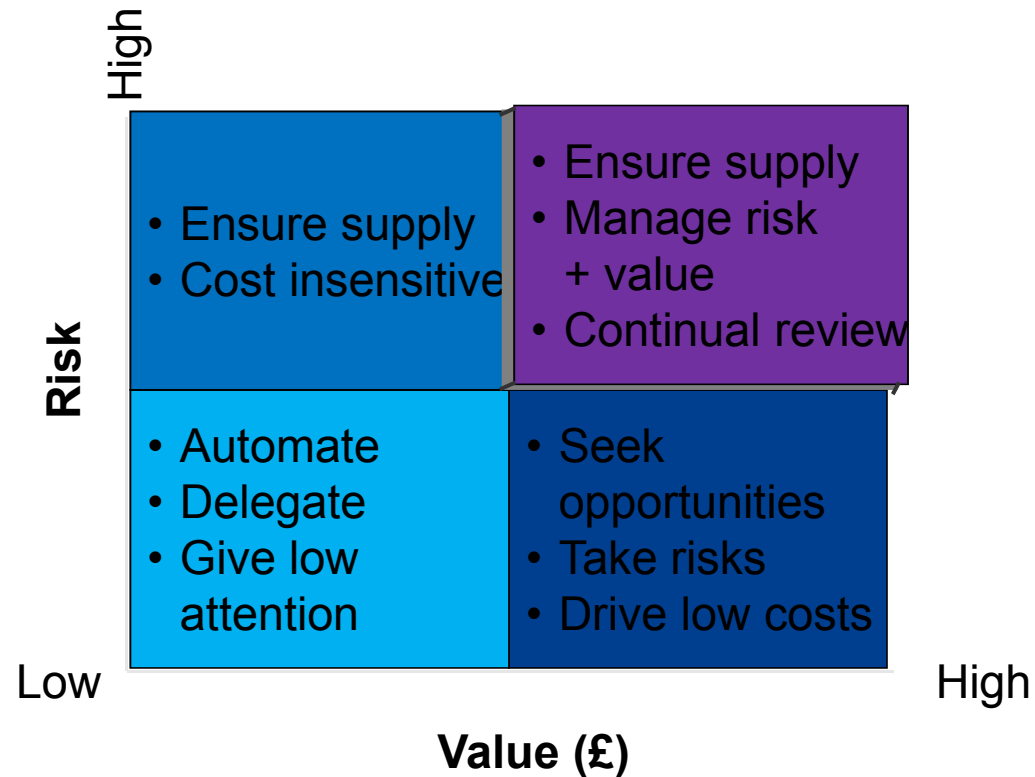


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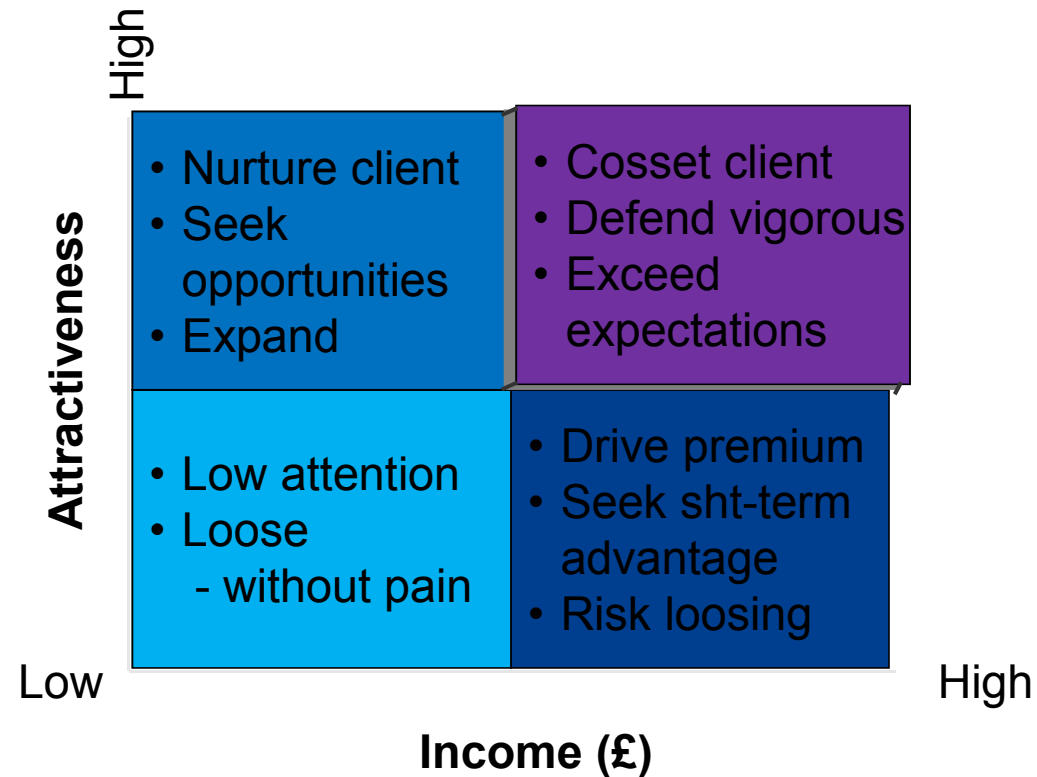
Vision 2025



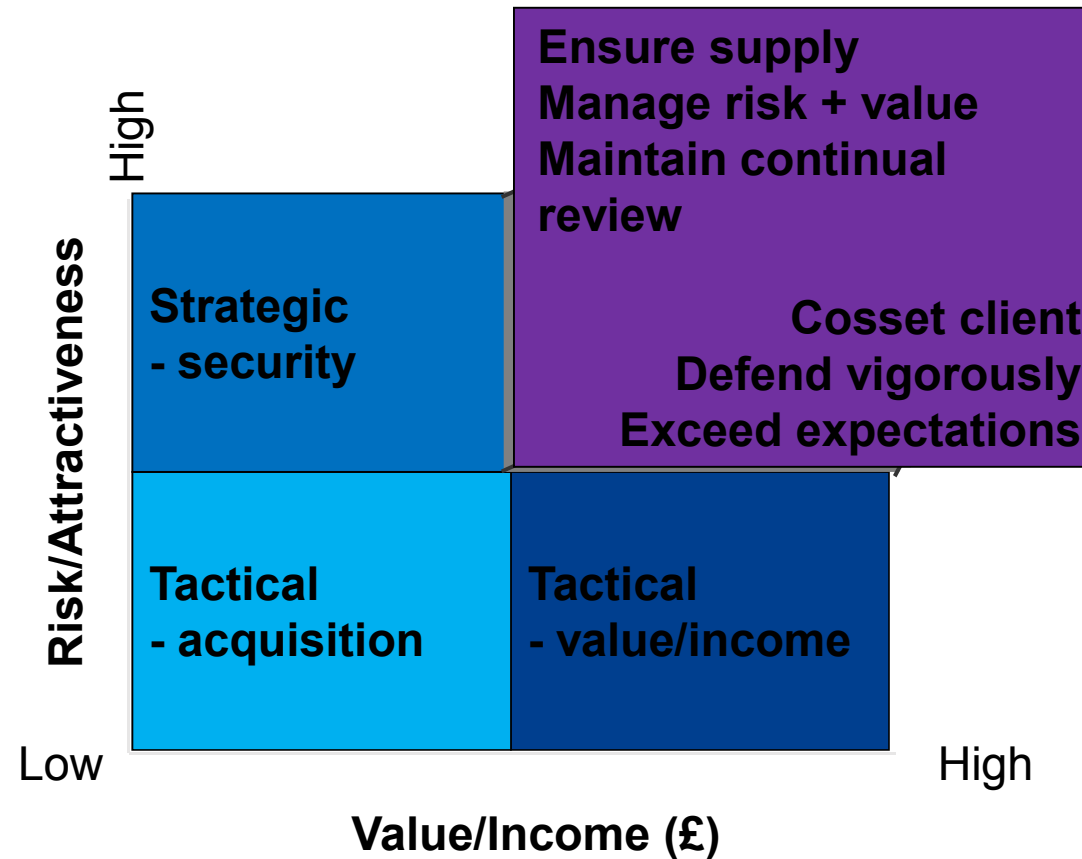
Customers' View of Procurement



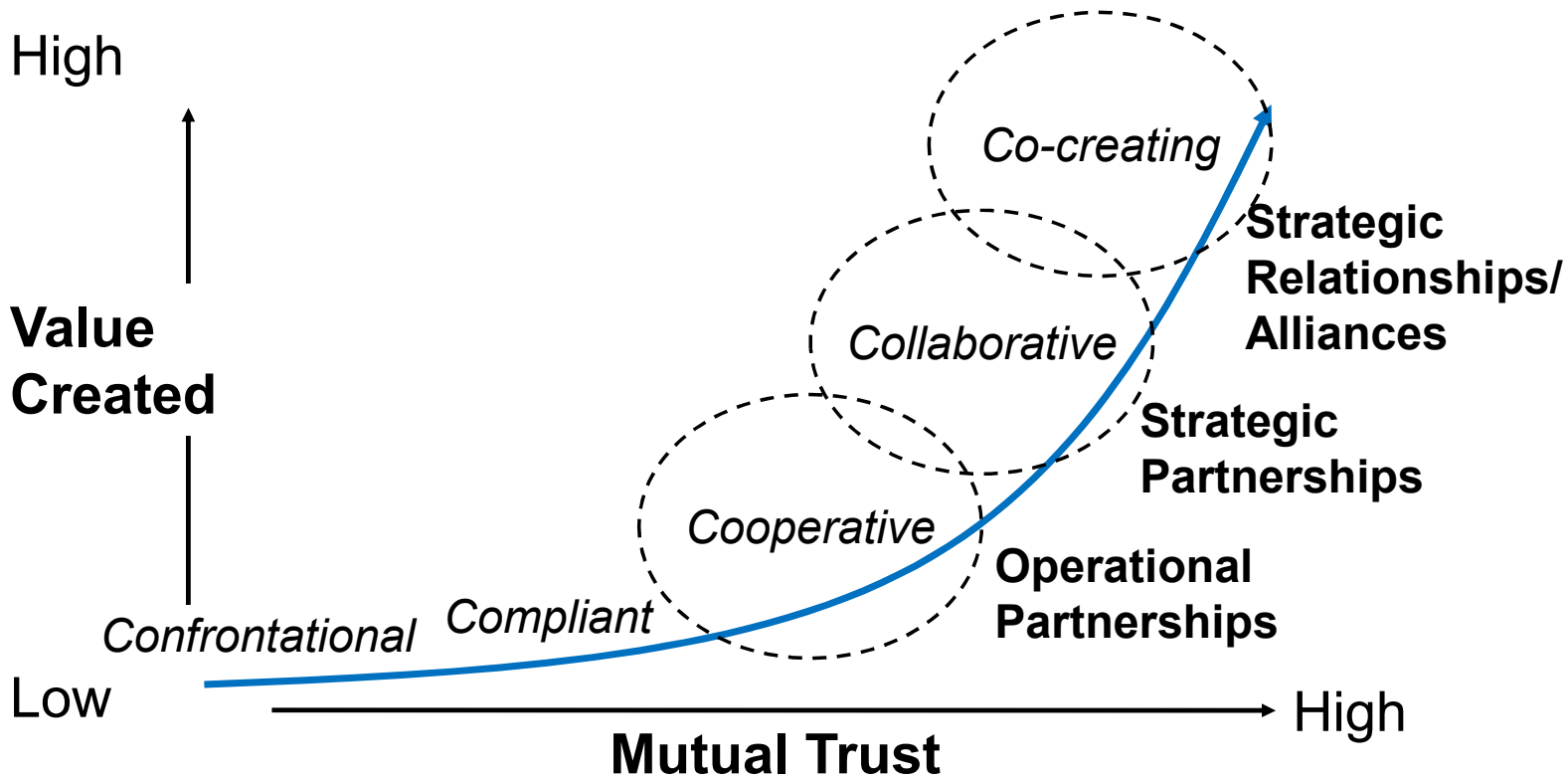
Suppliers' View of Procurement



CustomerS' and Suppliers' View



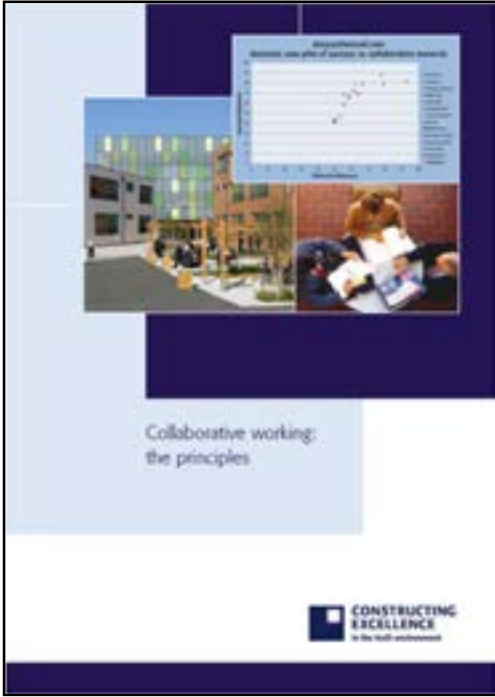
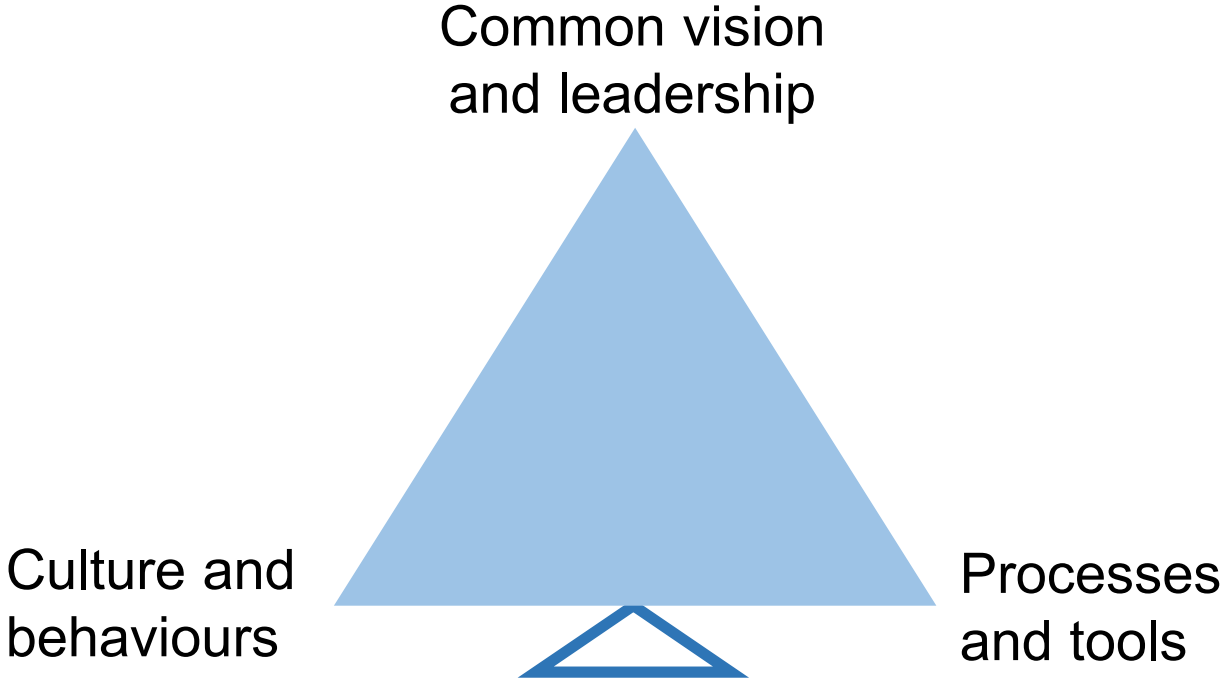
Partnered Relationship Styles



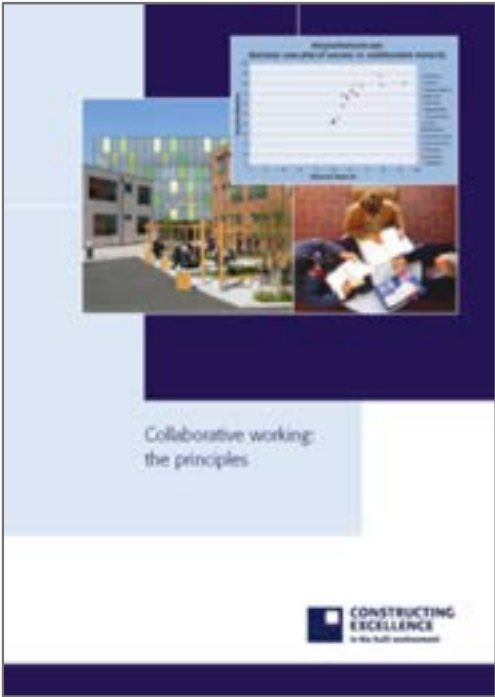
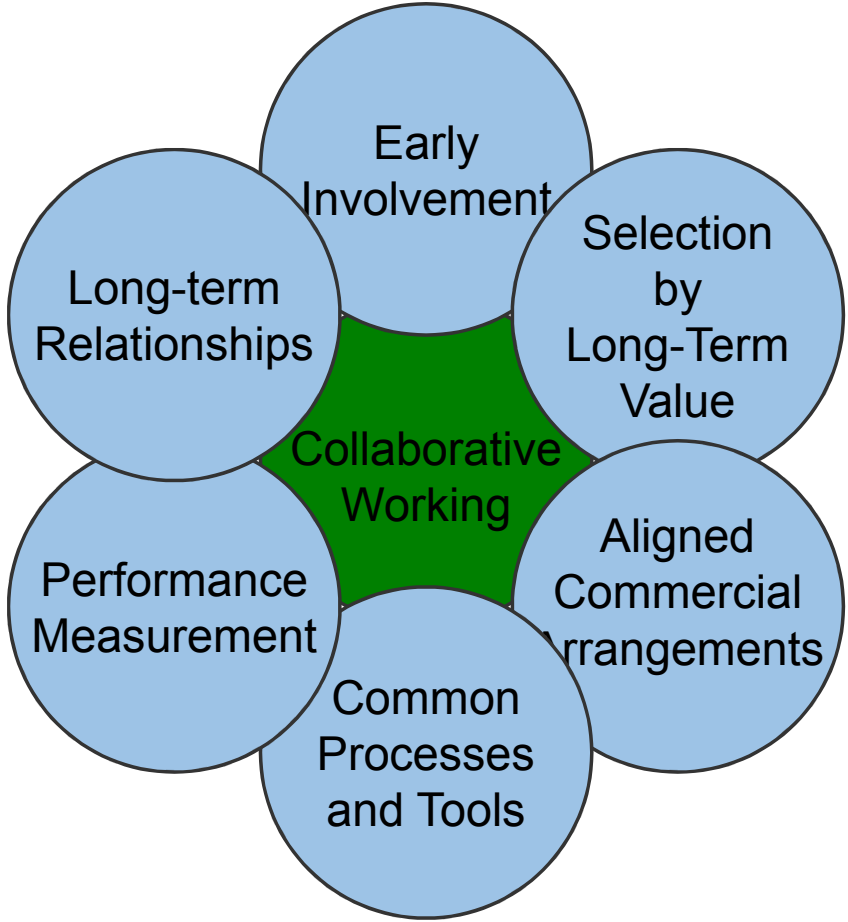
Collaborative Working



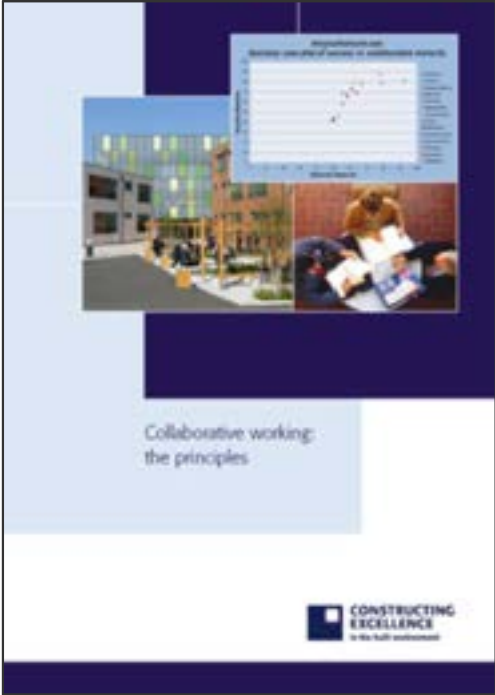
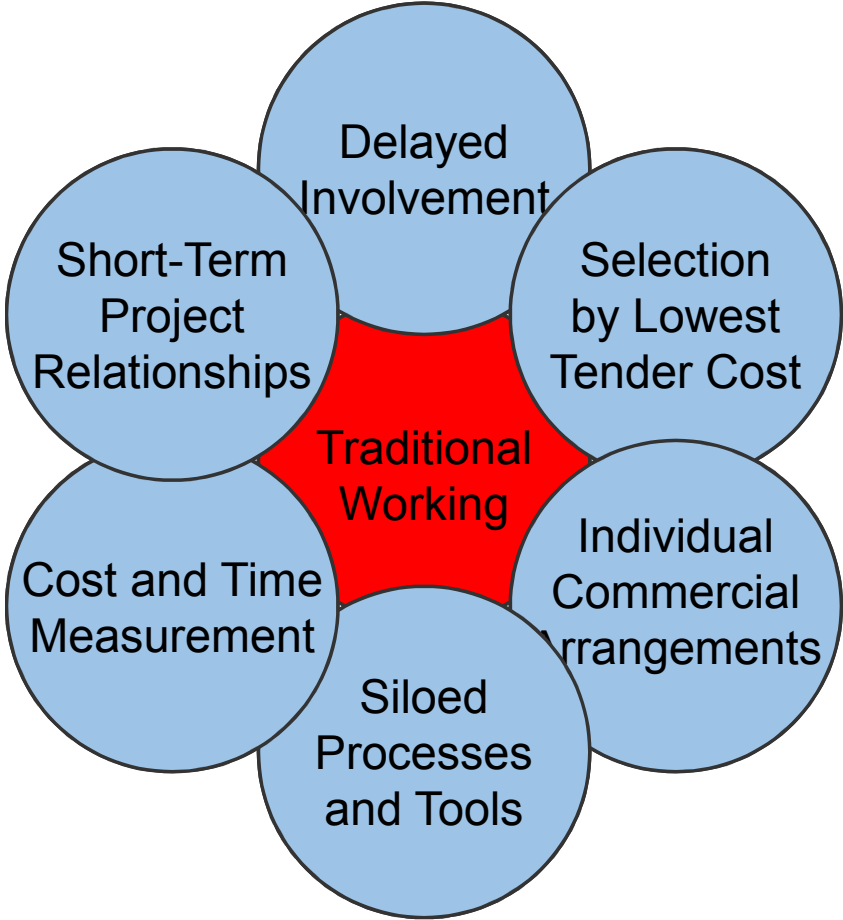
Three Overriding Principles



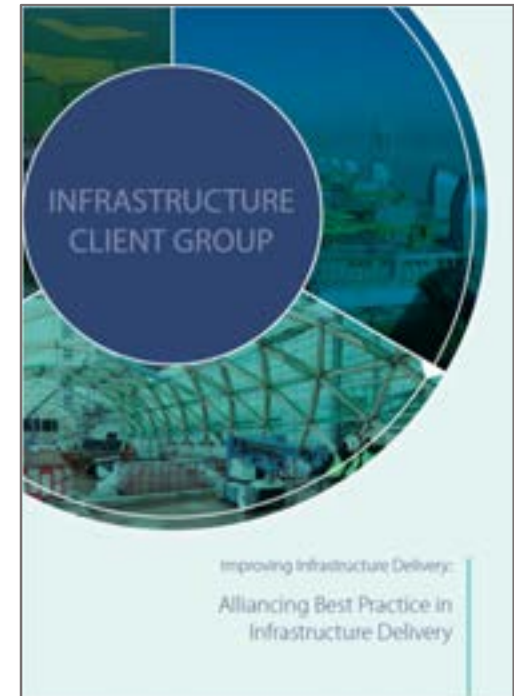
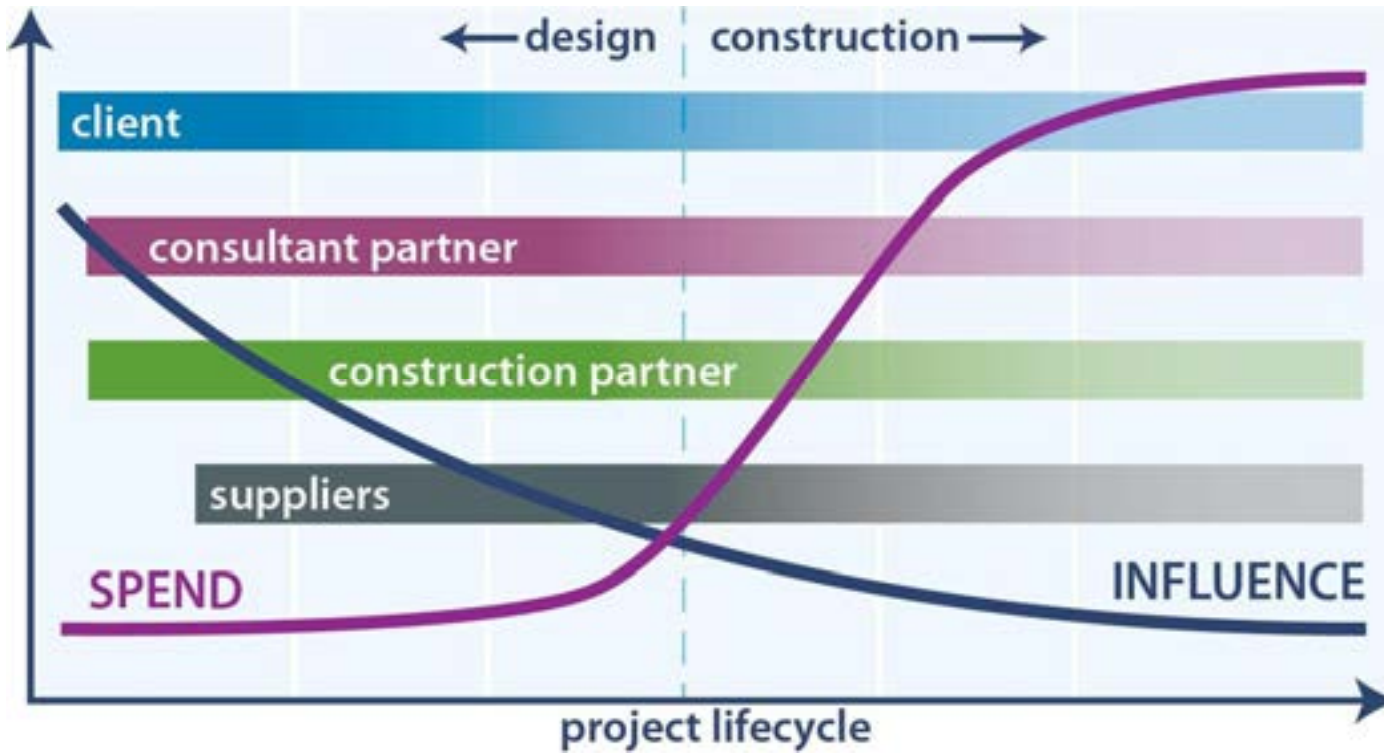
Six Critical Success Factors



Six Common Failures



Early Involvement



Selection by Value

- we need to understand how clients and users measure it (£, happy residents, CO₂, time, social value, etc)



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

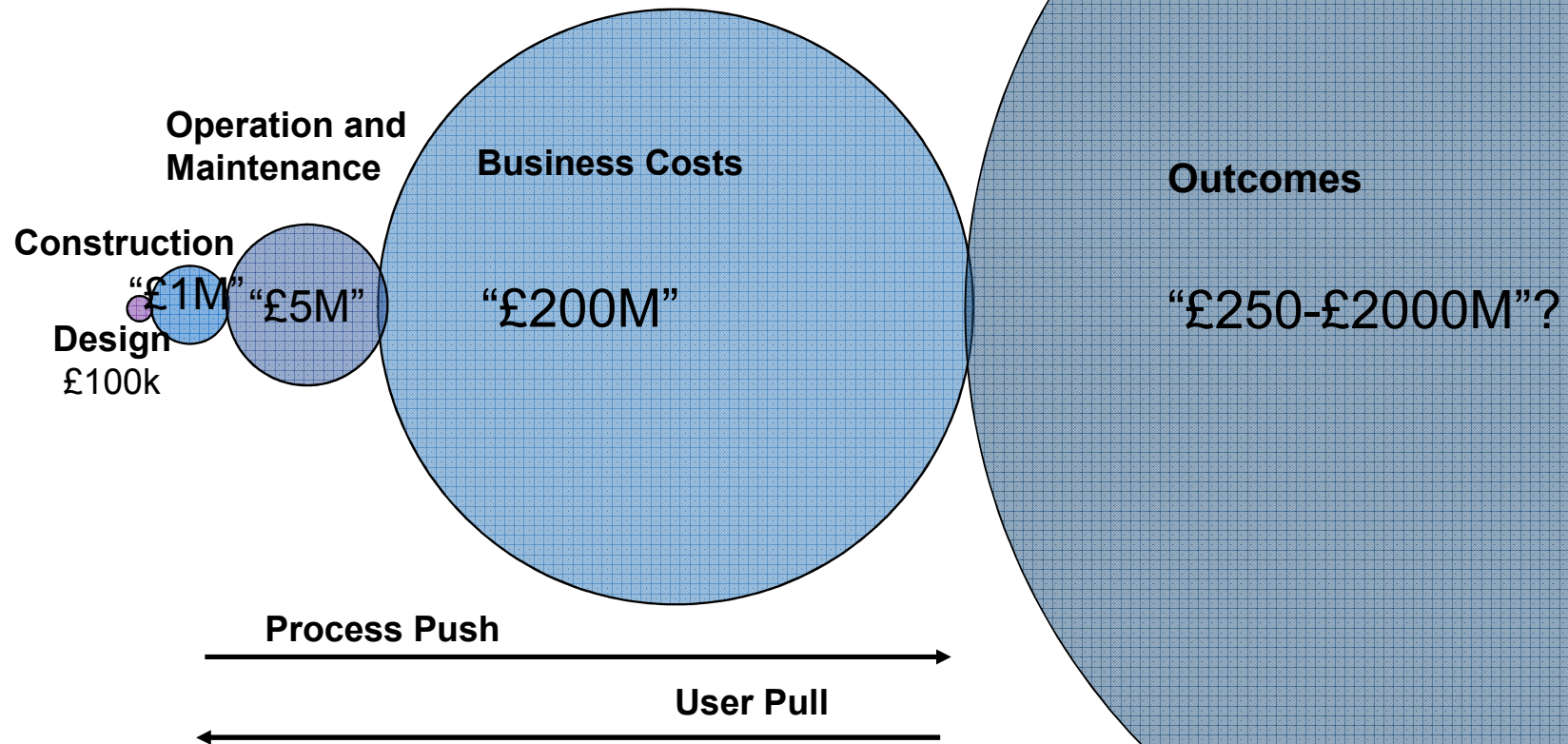
***More
For less***

**WHOLE
LIFE**



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The value of client outcomes far outweighs the project costs

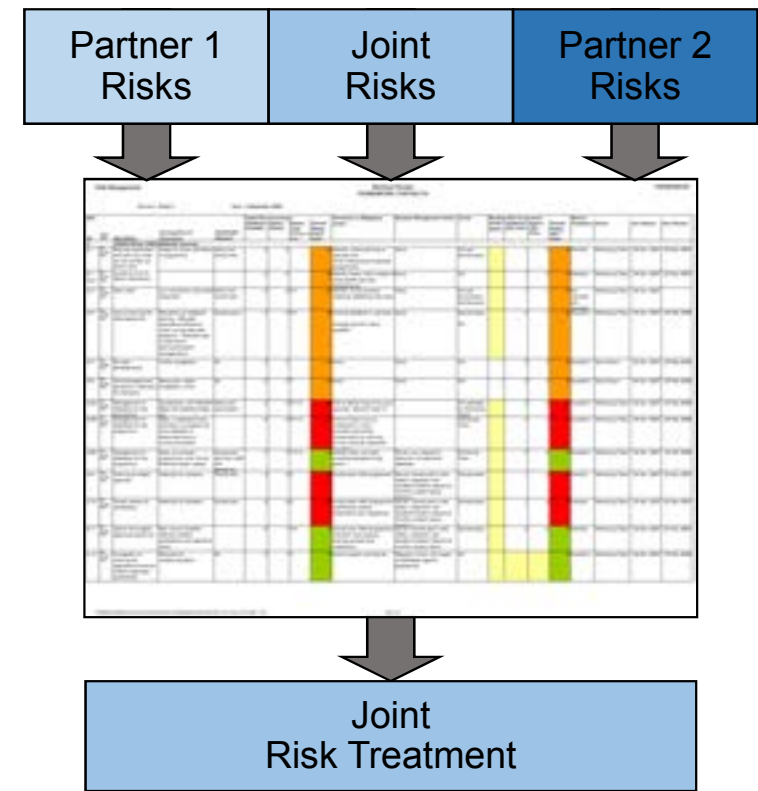
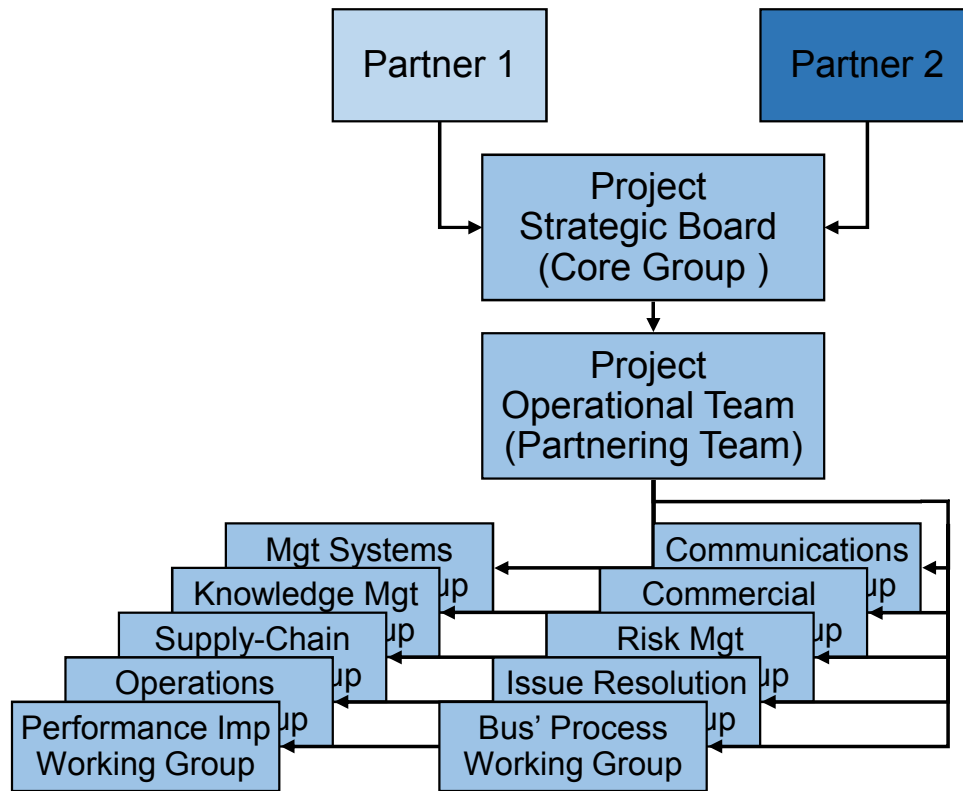


Clients' Drivers - Procuring for Value

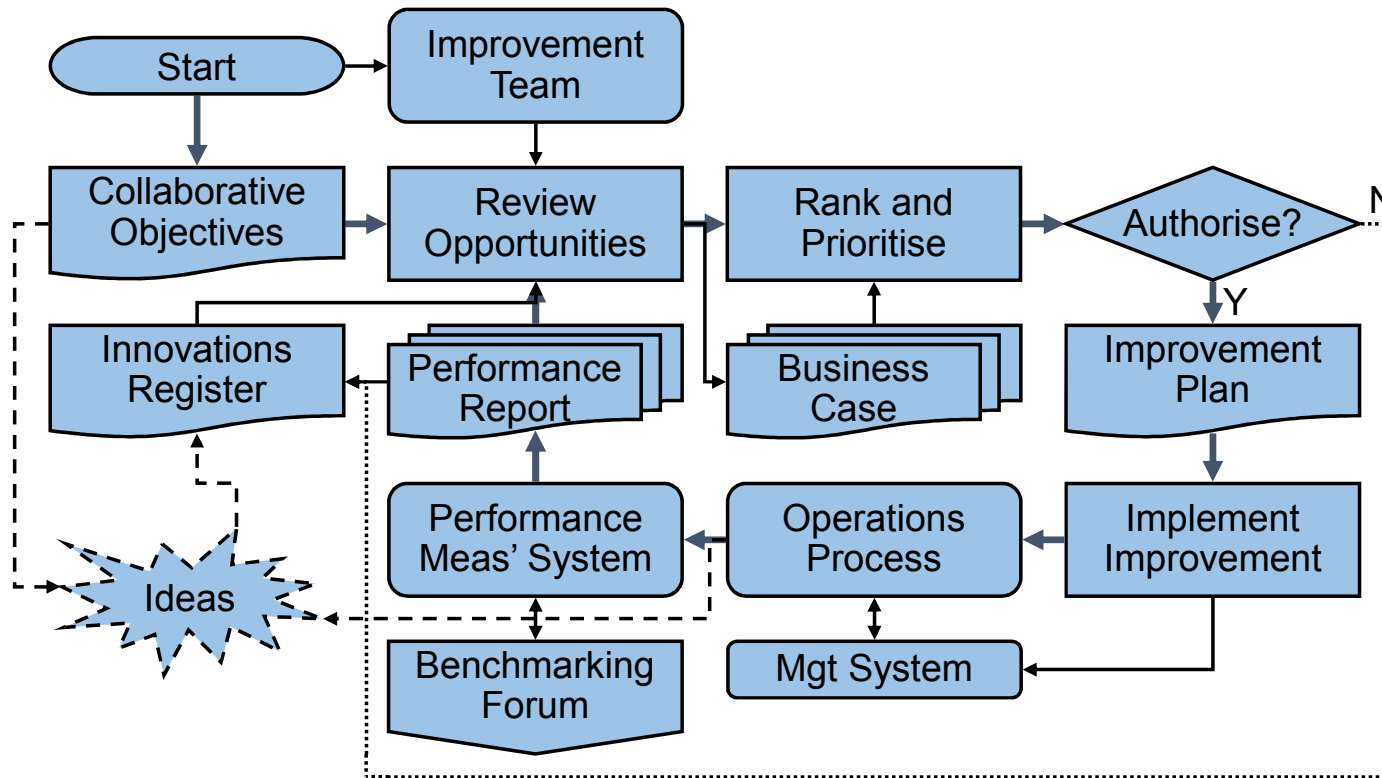


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Common Processes and Tools



Performance Measurement and Improvement



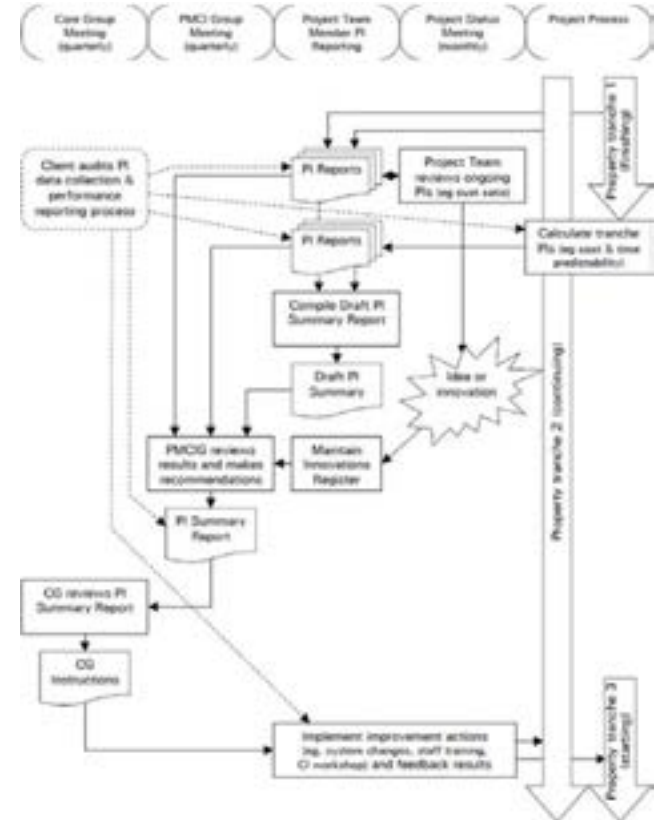
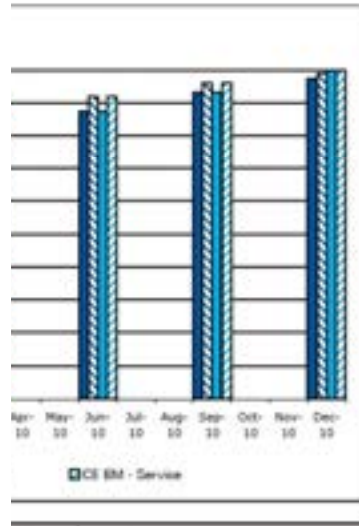
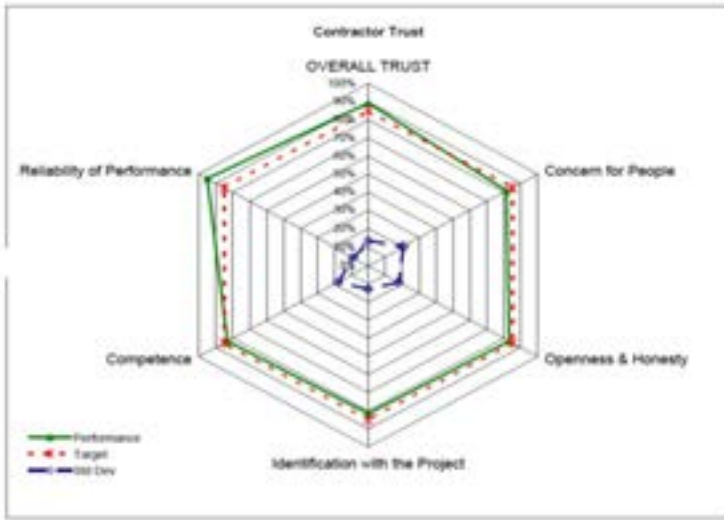
Performance Measurement and Improvement



Client Satisfaction Analysis

Sub-Contractor Trust Analysis Performance Summary Chart

Project: Sub-Contractor Partnering Review Workshop
 Occasion: 2nd April 2002
 Report Date:



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Long Term Relationships

Performance Analysis

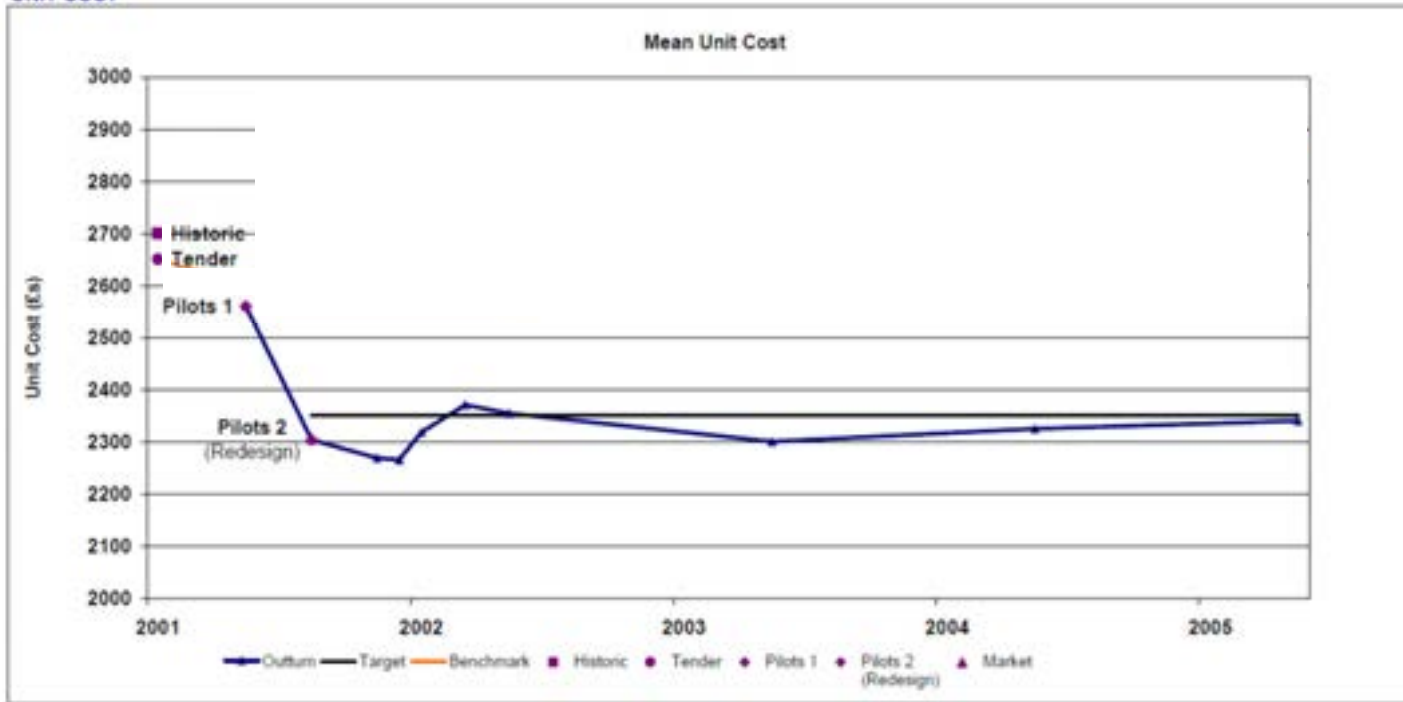
Summary

Division:

Project:

Report Date: 21st March 2006

UNIT COST



Unit Cost graph based upon monthly valuation reports, which include cumulative mean unit cost for each housing area.
Note includes the effect of end of year bulk purchase rebates.



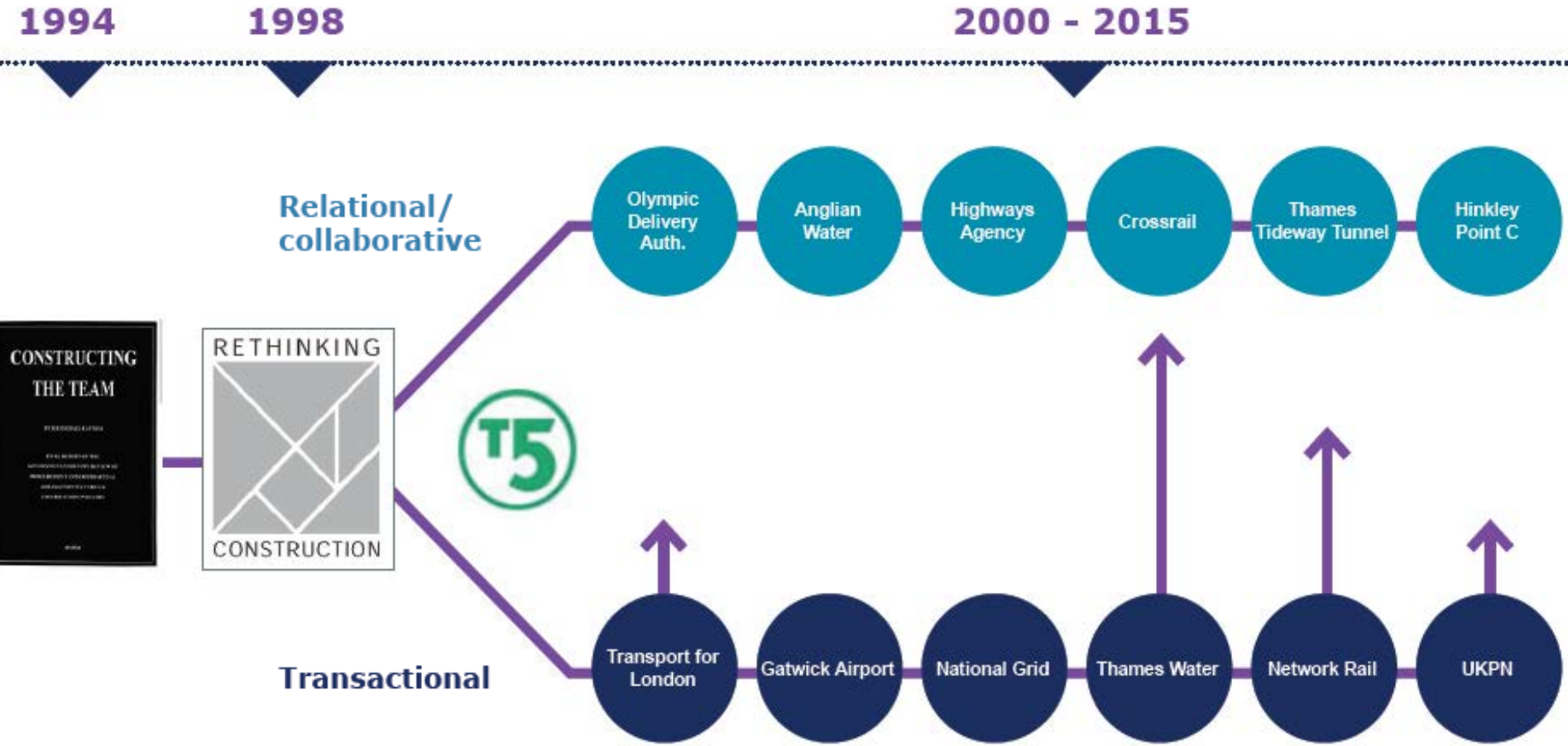
Achieving Vision 2025



- ⇒ **Respect for people**
- ⇒ **Collaborative working**
- ⇒ **BIM**
- ⇒ **Lean & Industrialisation**
- ⇒ **Value in use**
- ⇒ **Sustainability**



Major Infra Procurers Move to Collaborative/Relational Models



Questions & Answers

