



MAKING COLLABORATION WORK

Creating Value through Sustainable Business and Project Relationships

Paul R Greenwood
Managing Director
Greenwood Consultants

Putra World Trade Centre, Kuala Lumpur
11th September 2015
@GreenwoodC_MY #ICW2015 #EcobuildSEA

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Eur Ing **Paul Greenwood**
EMBA CEng MIET FCMI FCQI RSC SMASQ LMIQM

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Constructing Excellence
International Alliance

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GreenwoodConsultants.com
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Best Practice Services

- Collaborative Business and Project Relationships
- Performance Measurement and Improvement
- Management Systems
- Facilitation
- Organisation and Process Design and Reengineering
- Process Review and Improvement
- Major Projects

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Agenda

- What is collaboration?
- Why collaborate?
- Overriding principles
- Critical success factors
- Contracts and frameworks for collaboration
- Examples from demonstration projects
- Conclusions



The Good The Bad and the Excellent

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Three Stadia - Emirates Stadium

Ashburton Grove, Islington, London

- Client: Arsenal Football Club
- Start: July 2003
- Opened: July 2006
- *On time*
- Cost: £390M construction only
- *On budget*
- Contract: JCT with contractor design
- Capacity: 60k
- Architect: Hok Sport [Populus]
- Struct' Eng: Buro Happold
- Contractor: Sir Robert McAlpine
- Relations: *No disputes*



Three Stadia - Wembley Stadium

Empire Way, Wembley Park, London

- Client: The Football Association
- Start: September 2002
- Opened: March 2007
- *Late, due for 2006 FA Cup*
- Cost: £757M construction only
- *Estimated actual £1Bn*
- Capacity: 90k
- Architect: Foster & Partners, et al
- Struct' Eng: Mott MacDonald Consortium
- Contractor: Multiplex Constructions (UK)
- Relations: *Largest claim and legal costs in British construction history*
 - >£250M Multiplex v Mott MacDonald, legal costs: >£74M
 - >£38M Multiplex v Cleveland Bridge, legal costs: >£22M



Three Stadia - Olympic Stadium

Olympic Park, Stratford, London

- Client: Greater London Authority
Olympic Delivery Authority
- Start: May 2008
- Opened: March 2011
- *Early*
- Cost: £486M construction only
Under budget
- Contract: NEC3
- Capacity: 80k
- Architect: Hok Sport [Populus]
- Struct' Eng: Buro Happold
- Contractor: Sir Robert McAlpine
- Relations: *No disputes*



What is Collaboration?

Partnerships, Collaborations and Relationships

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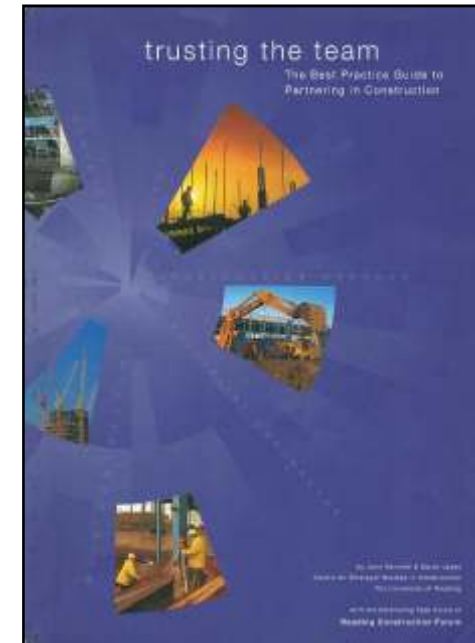
Partnering

“A management approach used by two or more organisations to achieve specific business objectives by maximising the effectiveness of each participant’s resources

...

The approach is based on:

- mutual objectives
- an agreed method of problem resolution
- an active search for continuous measurable improvements.”



‘Trusting the Team’, Bennett & Jayes, University of Reading,
Partnering Task Force, Reading Construction Forum, 1995.

ecobuild
Southeast Asia

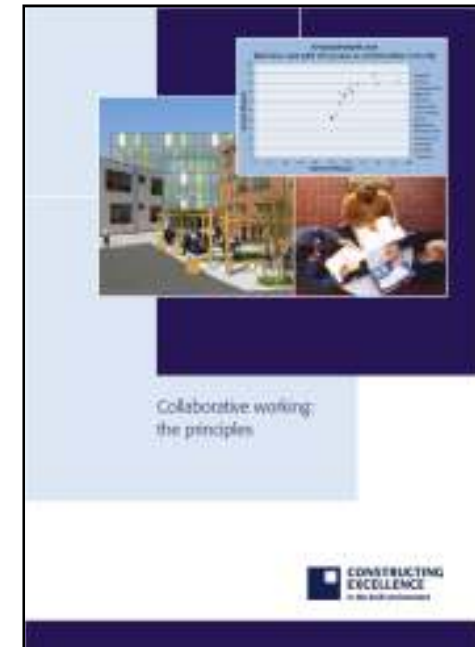
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Collaborative Working

“Working together in a seamless team to common objectives that deliver benefit to all through mutually beneficial (including commercial) alignment.”



‘Collaborative Working - The Principles’, Constructing Excellence, 2011.

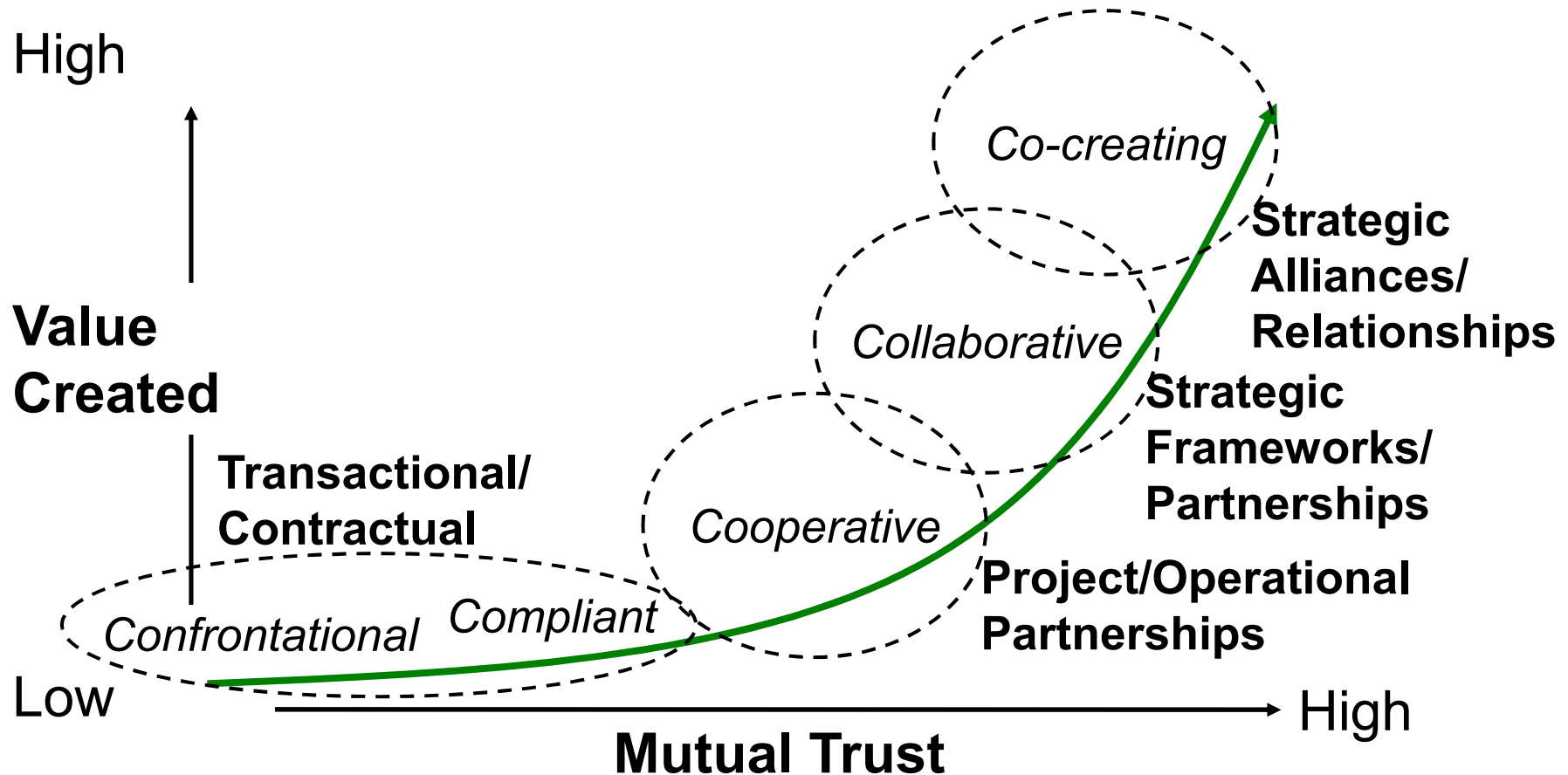
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International
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Relationship Styles



Based upon 'Relationship Styles', The Strategic Partnering Handbook, Tony Lendrum, 1995.

Why and When to Collaborate?

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The Long Term Cost of Owning and Using Buildings

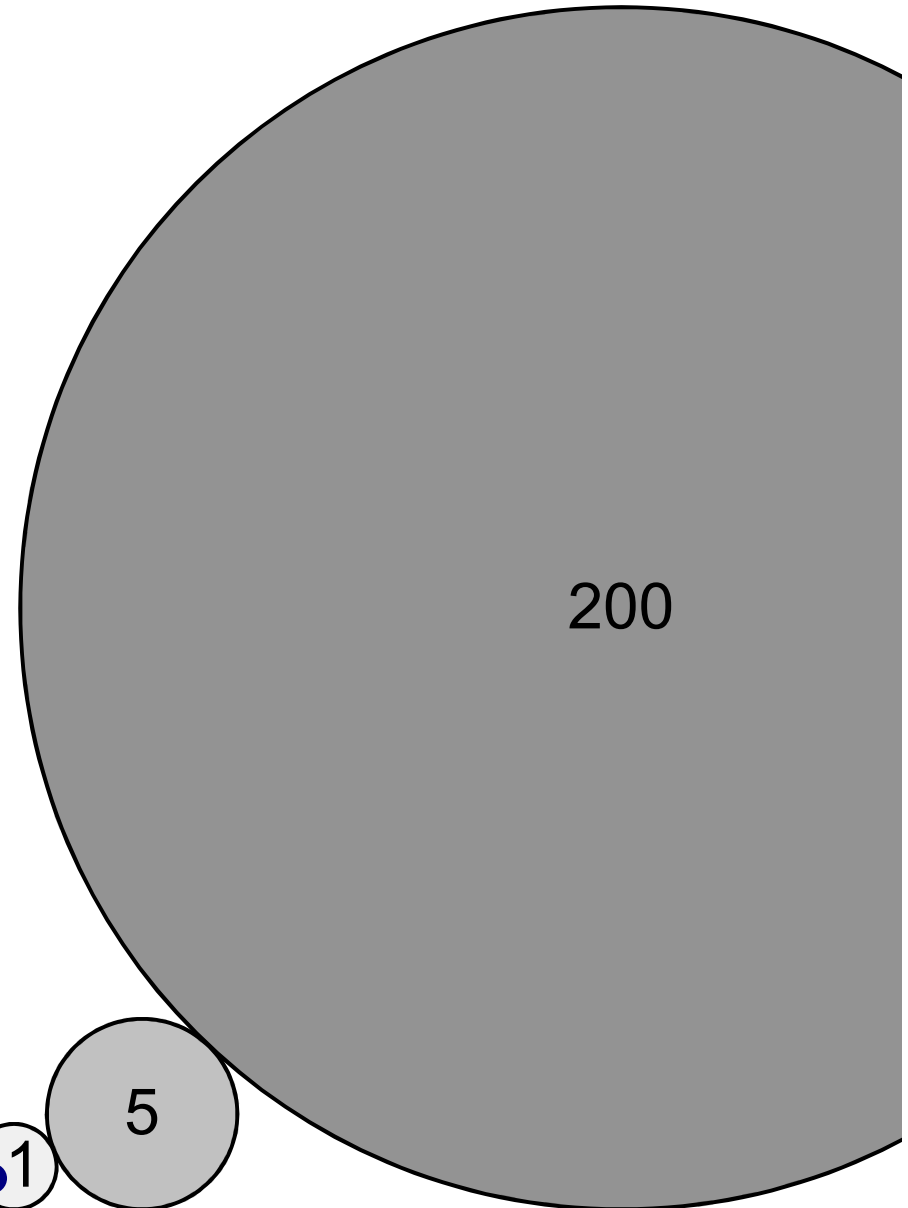
Rule of thumb:

- Construction
 - Project management
 - Design
- Building Maintenance and Operating Cost
- Business Operating Cost

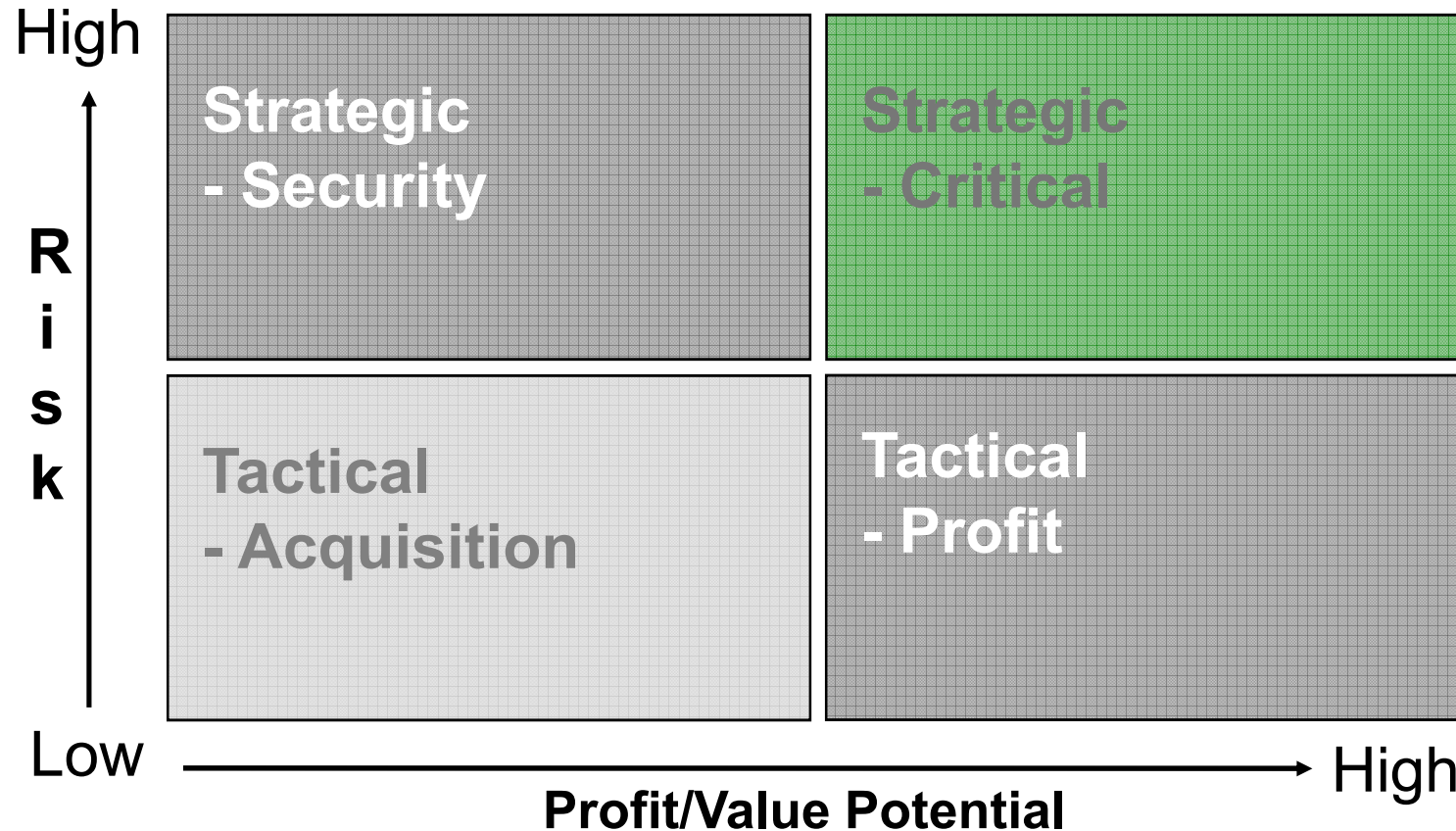
1:5:200

'Appointing a Project Manager',
T Ollerearnshaw, 'Construction Journal',
Royal Institution of Chartered Surveyors, June-July 2013.

'The Long-Term Costs of Owning and Using Buildings',
R Evans, R Haryott, N Haste and A Jones,
The Royal Academy of Engineering, 1998.

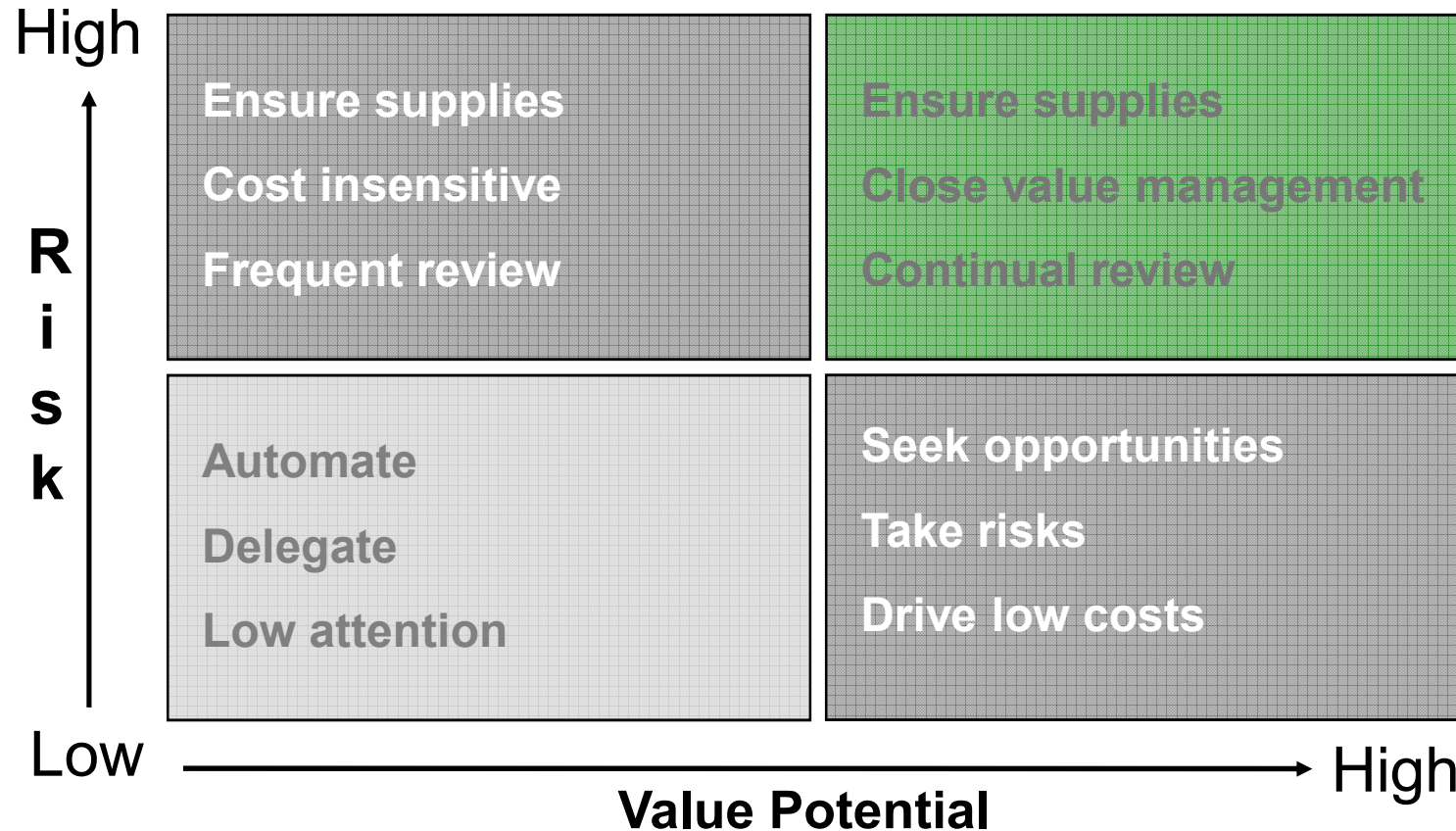


Procurement Positioning



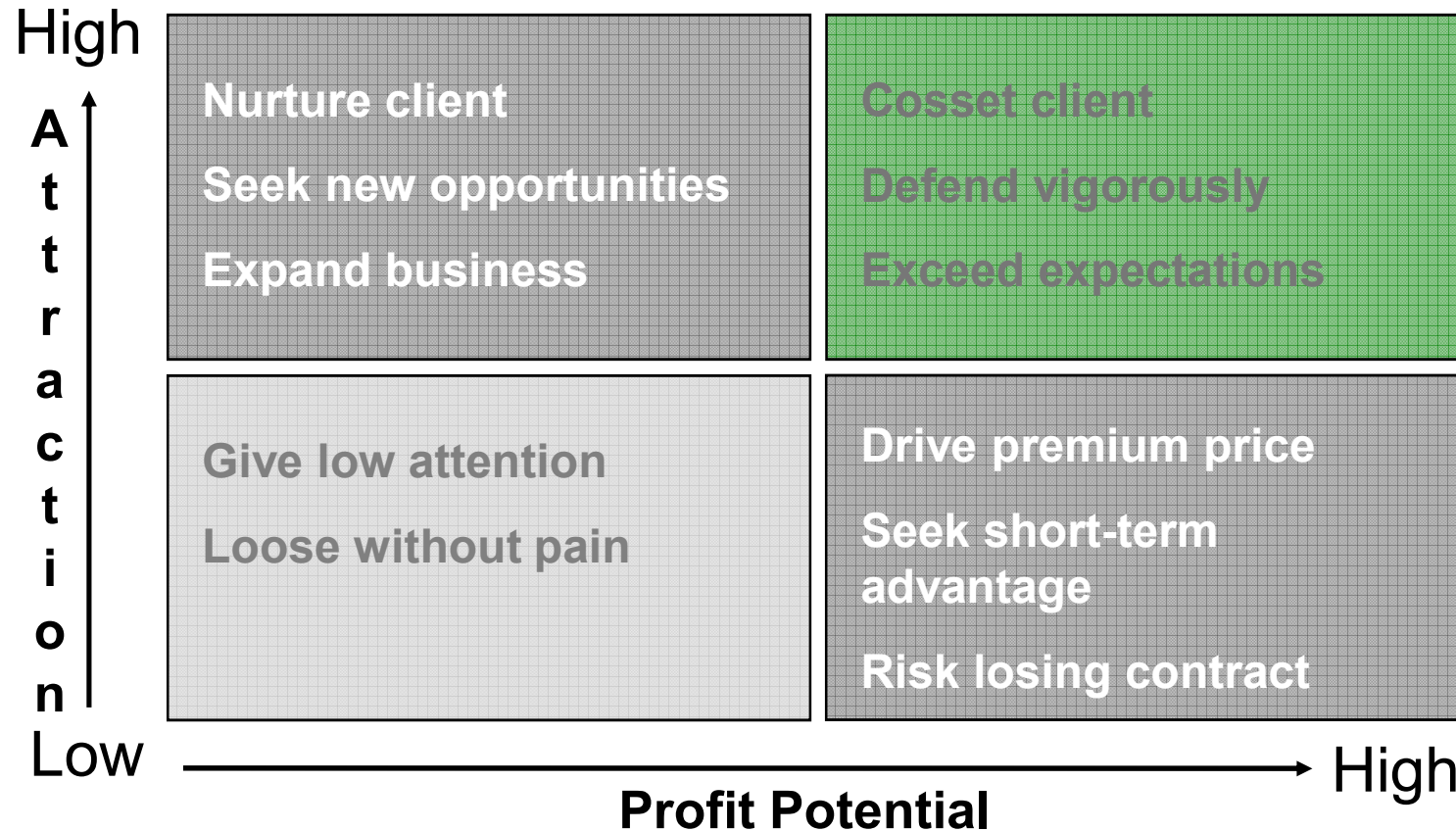
'Procurement Positioning Overview', TI Elliott-Shircore and PT Steele,
Purchasing and Supply Management, December 1985.

Supply-Chain Selection Strategy



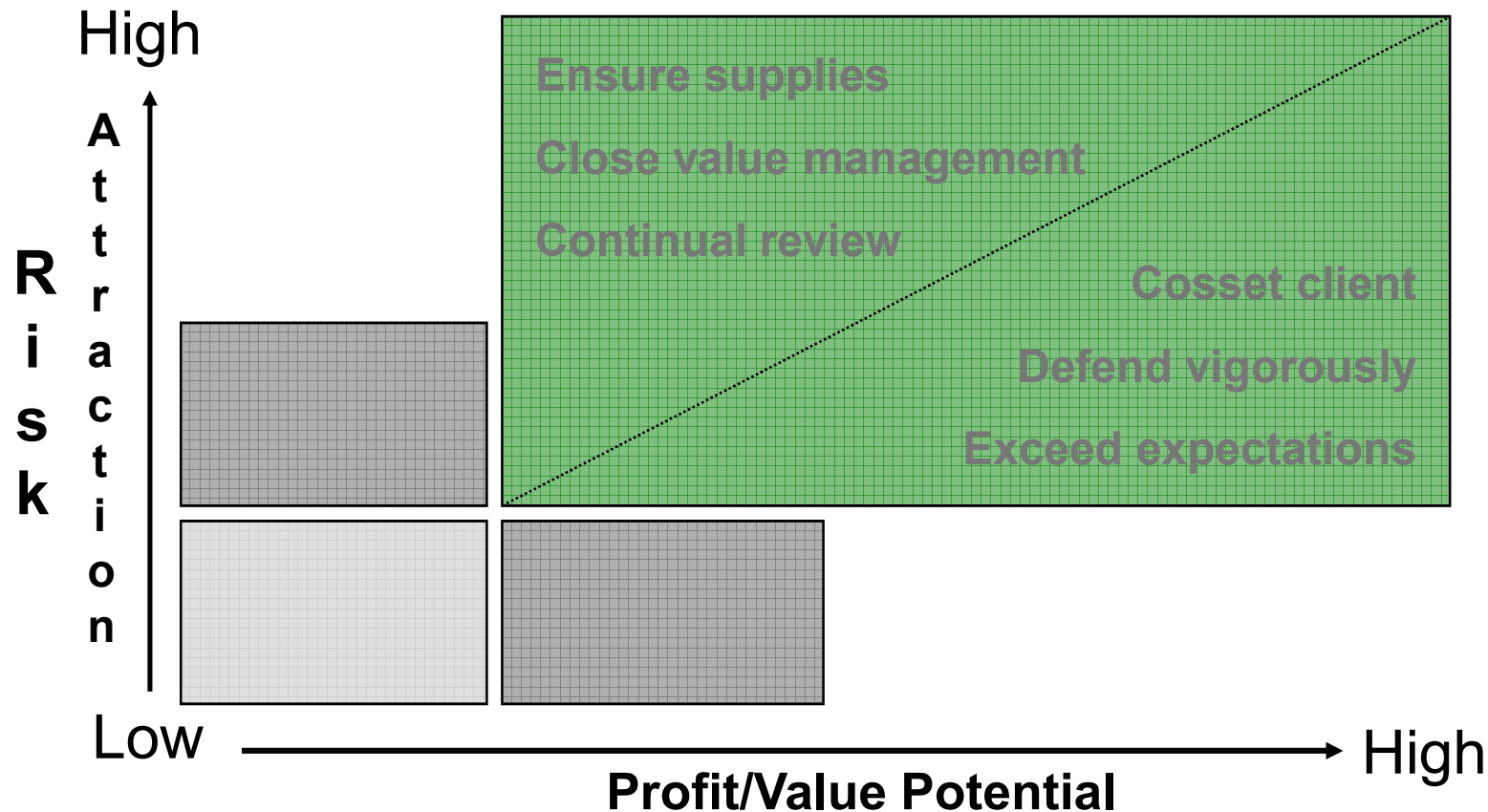
'Supply-Chain Selection Strategy',
Mike Thomas, Mike Thomas Limited, November 2000.

Client Selection Strategy



'Client Selection Strategy',
Mike Thomas, Mike Thomas Limited, November 2000.

Client and Supply Chain Integration



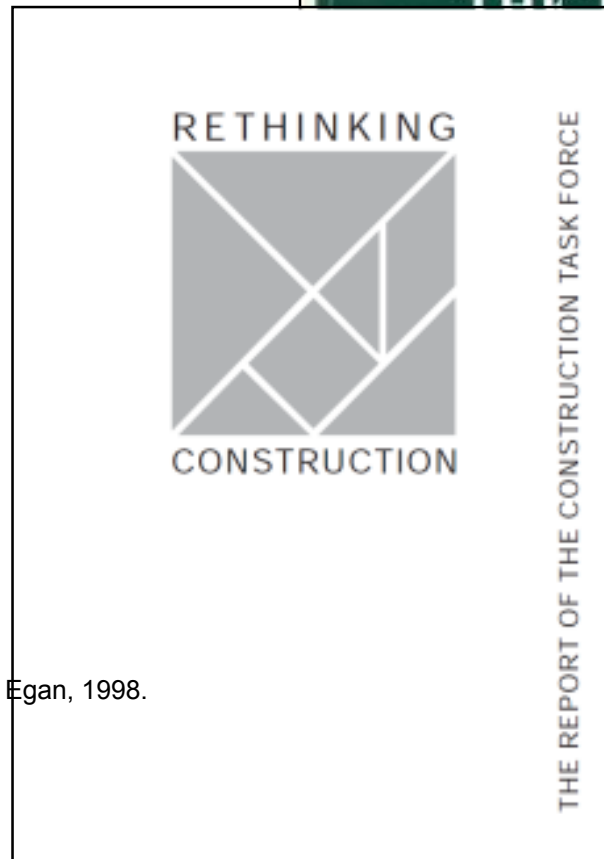
'Client and Supply Chain Selection Strategy',
Mike Thomas, Mike Thomas Limited, November 2000.

Drivers for Partnering in the UK

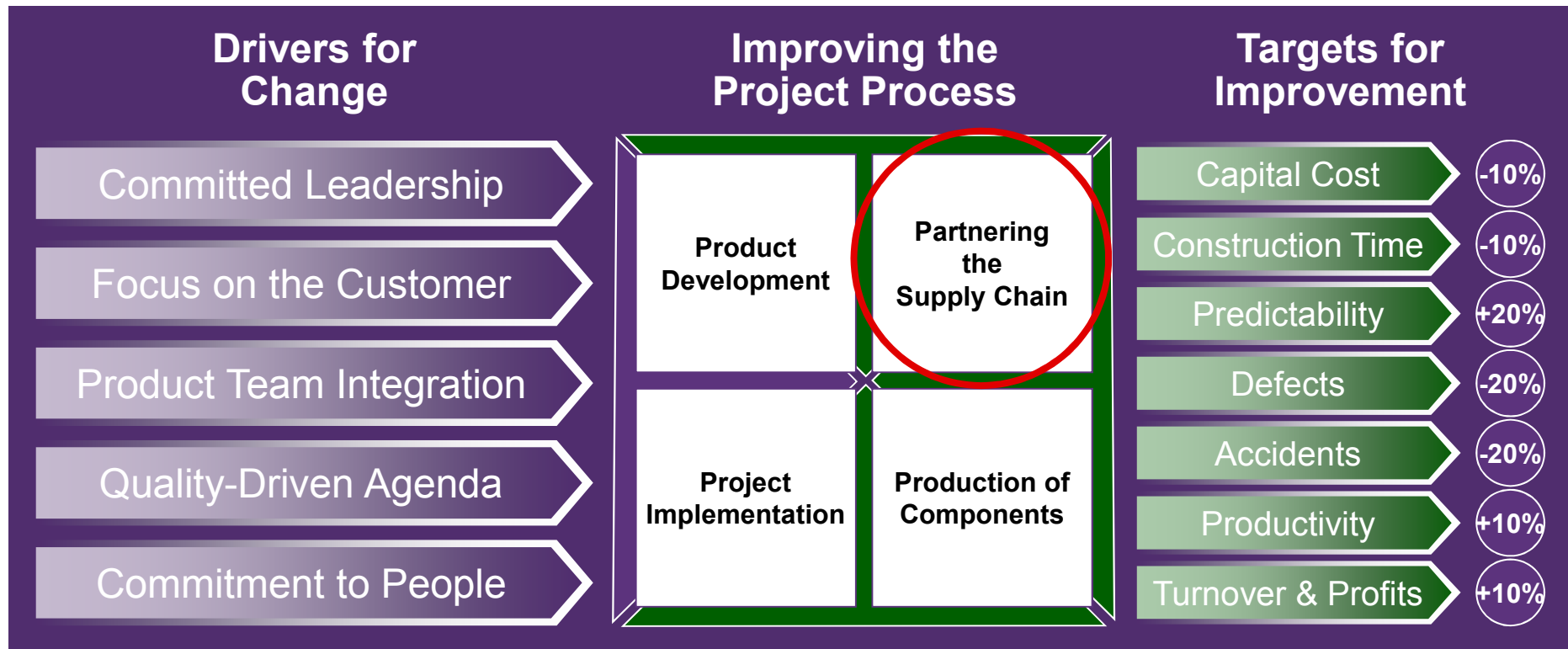


'Constructing the Team' Sir Michael Latham, 1994.

'Rethinking Constructing' The Construction Task Force, Chaired by Sir John Egan, 1998.



Egan 5-4-7



'M4I Strategy Model'
Movement for Innovation (M4I), Anniversary Report, 1999.



Overriding Principles and Critical Success Factors

What and How to Collaborate

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FINANCIAL TIMES

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May 15, 2013 4:02 pm

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Business leaders urged to collaborate with partners

By David Archer and Alex Cameron

What is 'collaborative leadership'?

Many of the people who will make a business succeed or fail today might not work

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Isn't it just people being nice?

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[In defence of Topgrading 'Hiring the right people takes time'](#)

[Interview Graham Beale, Nationwide chief executive](#)

[Better Boards: Non-executive chairman called 'naïve'](#)

toughest things a leader can do. They have to be confident enough to share control with people in organisations who have different drivers and different objectives. That can result in conflict – and handling conflict and using it constructively is another key component of collaborative leadership.

What do collaborative leaders do?

HIGHLIGHTS

FT LEXICON


Growth Stock
Protectionism
P/E Ratio
Relative Surplus Value
Ponzi Scheme
EBITDA
Trading Range

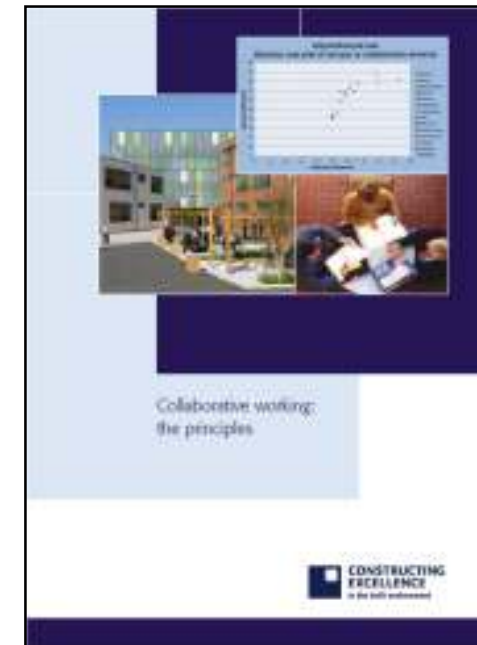
Need a definition? Look it up

MBA RANKINGS


Interactive MBA tables,
charts and diagrams

'Financial Times' website 15th May 2013.

Three Overriding Principles



'Collaborative Working - The Principles',
Constructing Excellence, 2011.

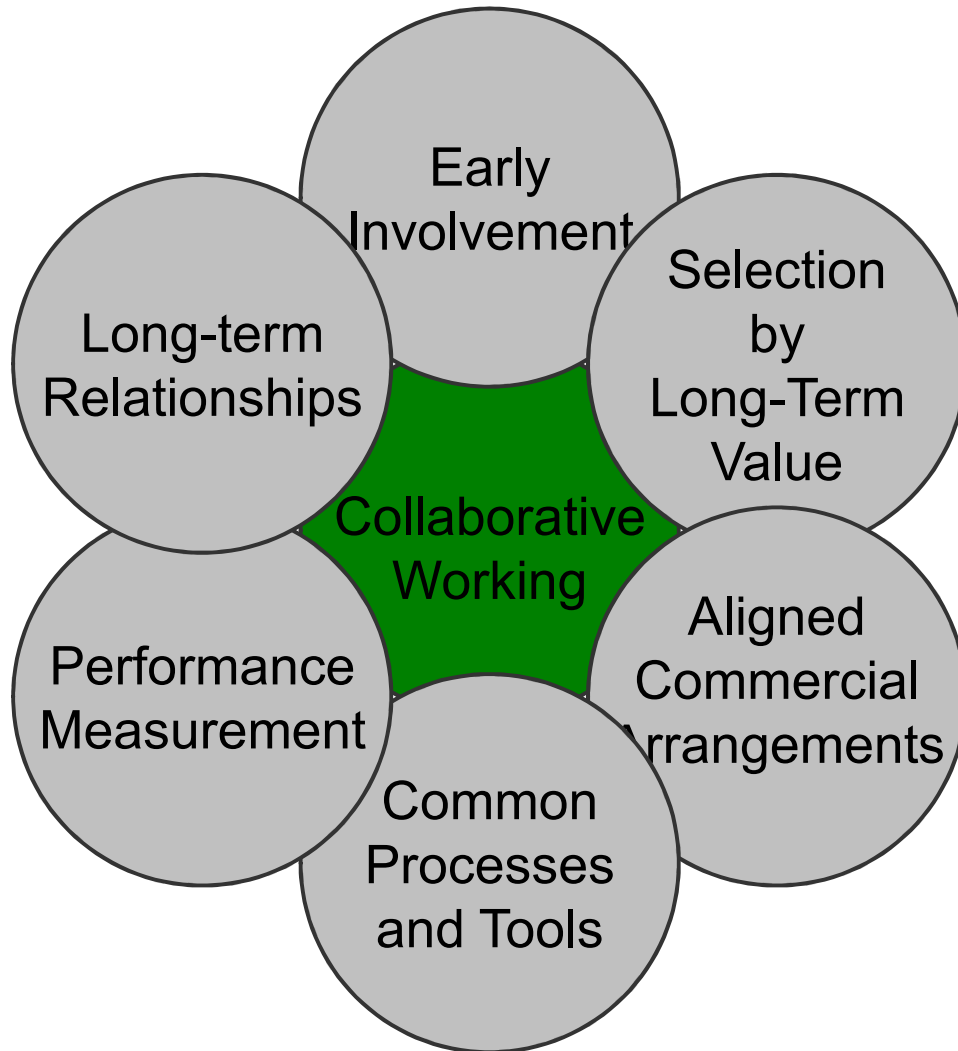

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International
Construction Week

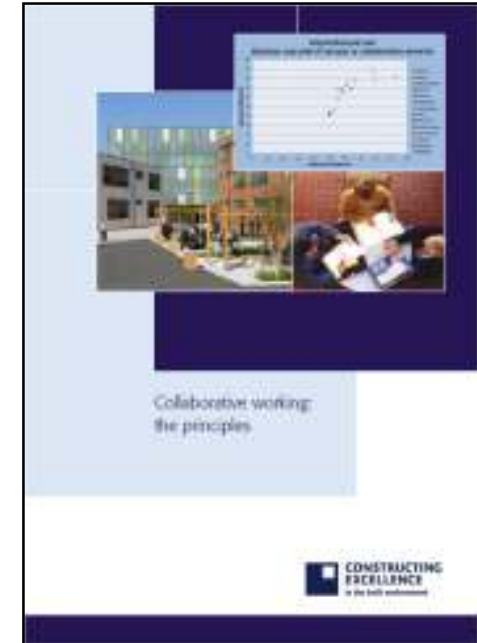
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Six Critical Success Factors

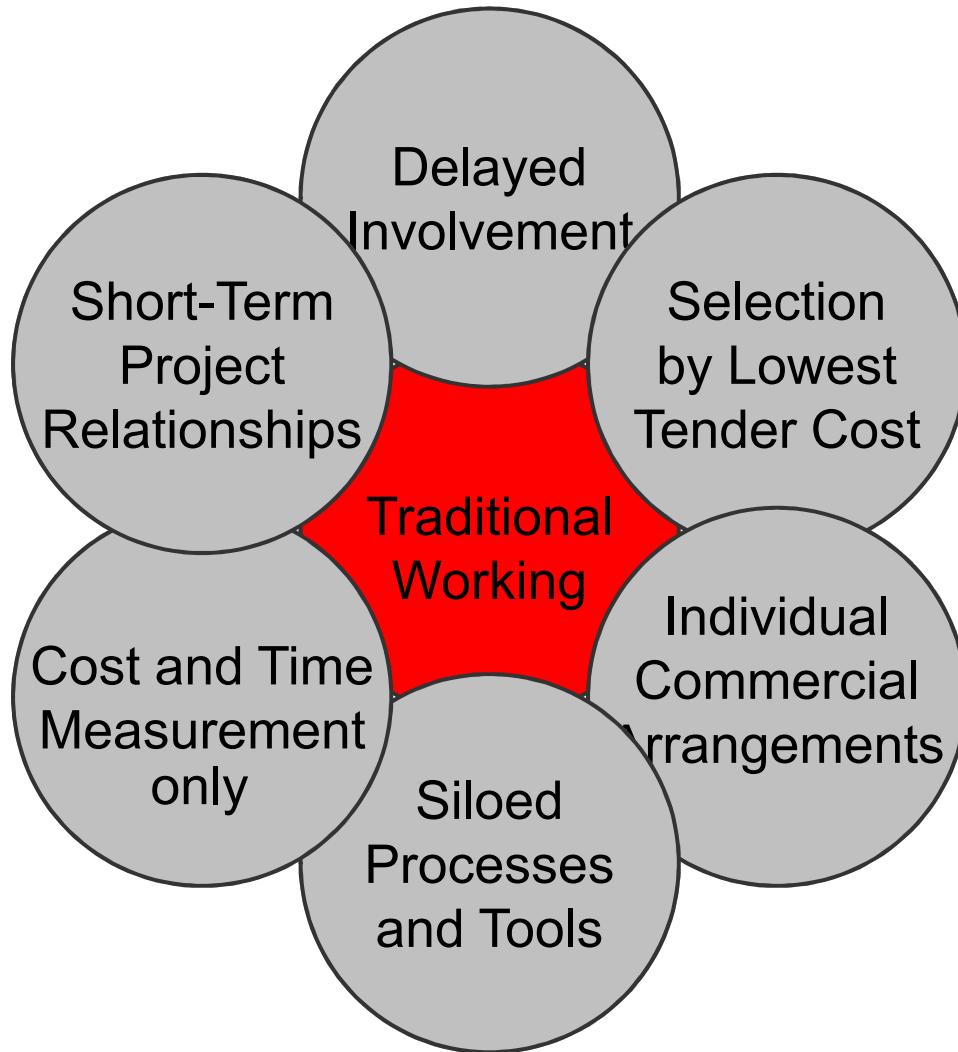


'Collaborative Working - The Principles',
Constructing Excellence, 2011.



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Six Critical Failures



'Six Critical Failures',
Paul R Greenwood, United House Ltd, August 2011.

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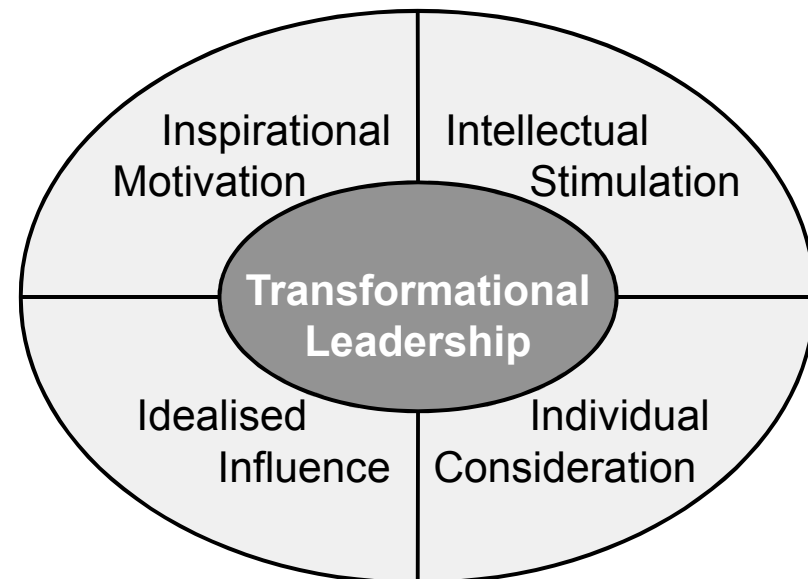
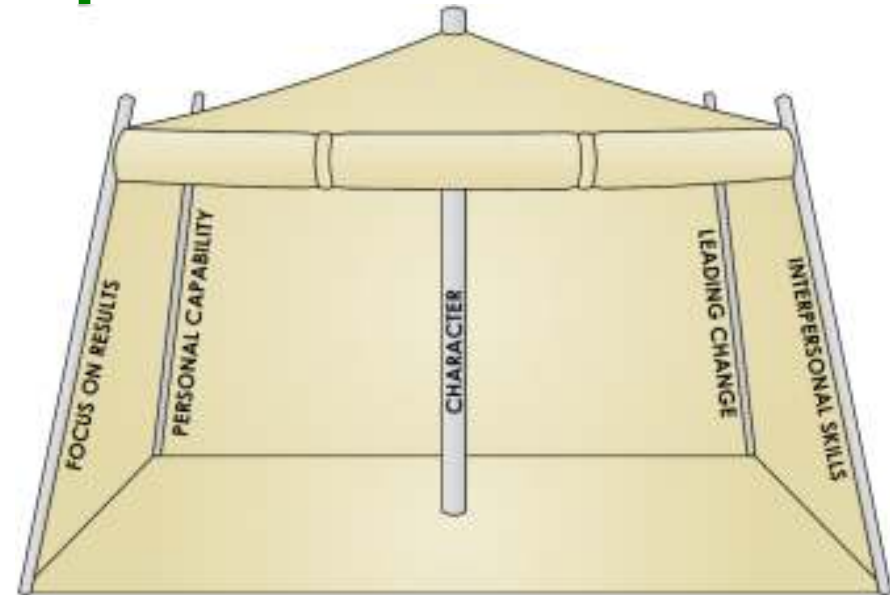
Collaborative Mechanisms

With Examples and Demonstration Projects

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Collaborative Leadership

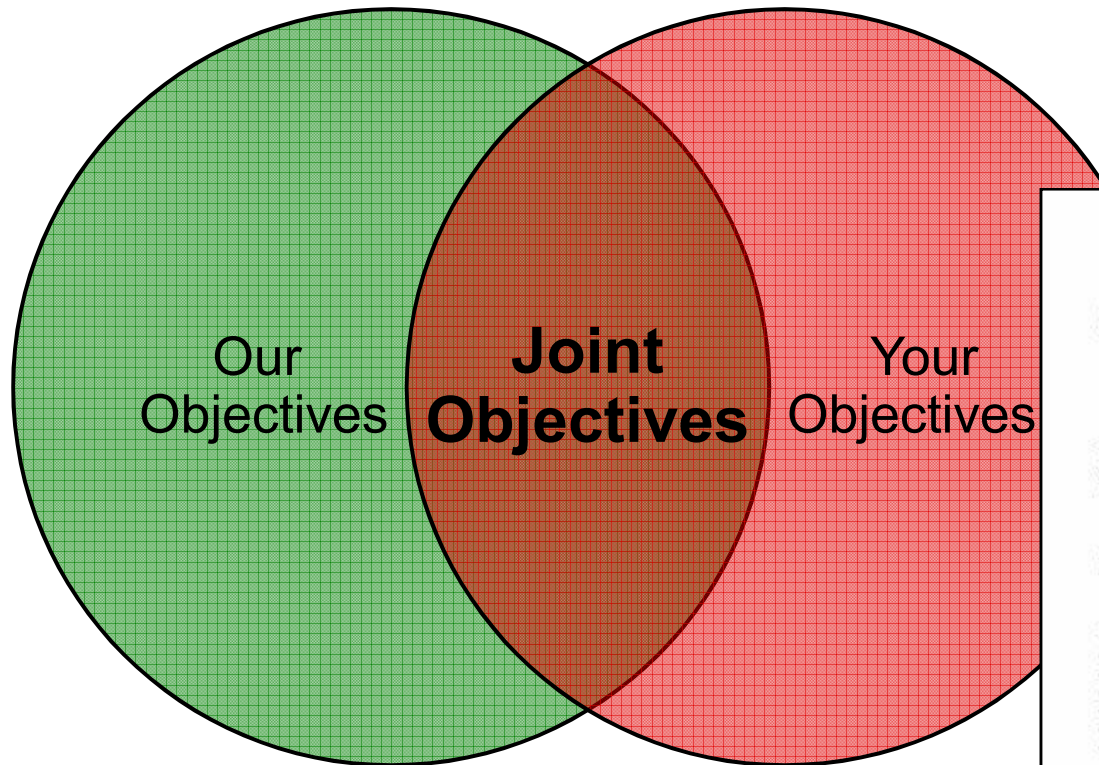
- New competencies
 - Social
 - Technical
 - Commercial
 - Managerial



'Zenger-Folkman Model for Leadership'
John H. Zenger, Joseph Folkman and Scott K Edinger, 2010.

'4i Transformational Leadership Model',
'From Transactional to Transformational Leadership',
Bernard M Bass, Organisational Dynamics, Winter 1990.

Collaborative Objectives

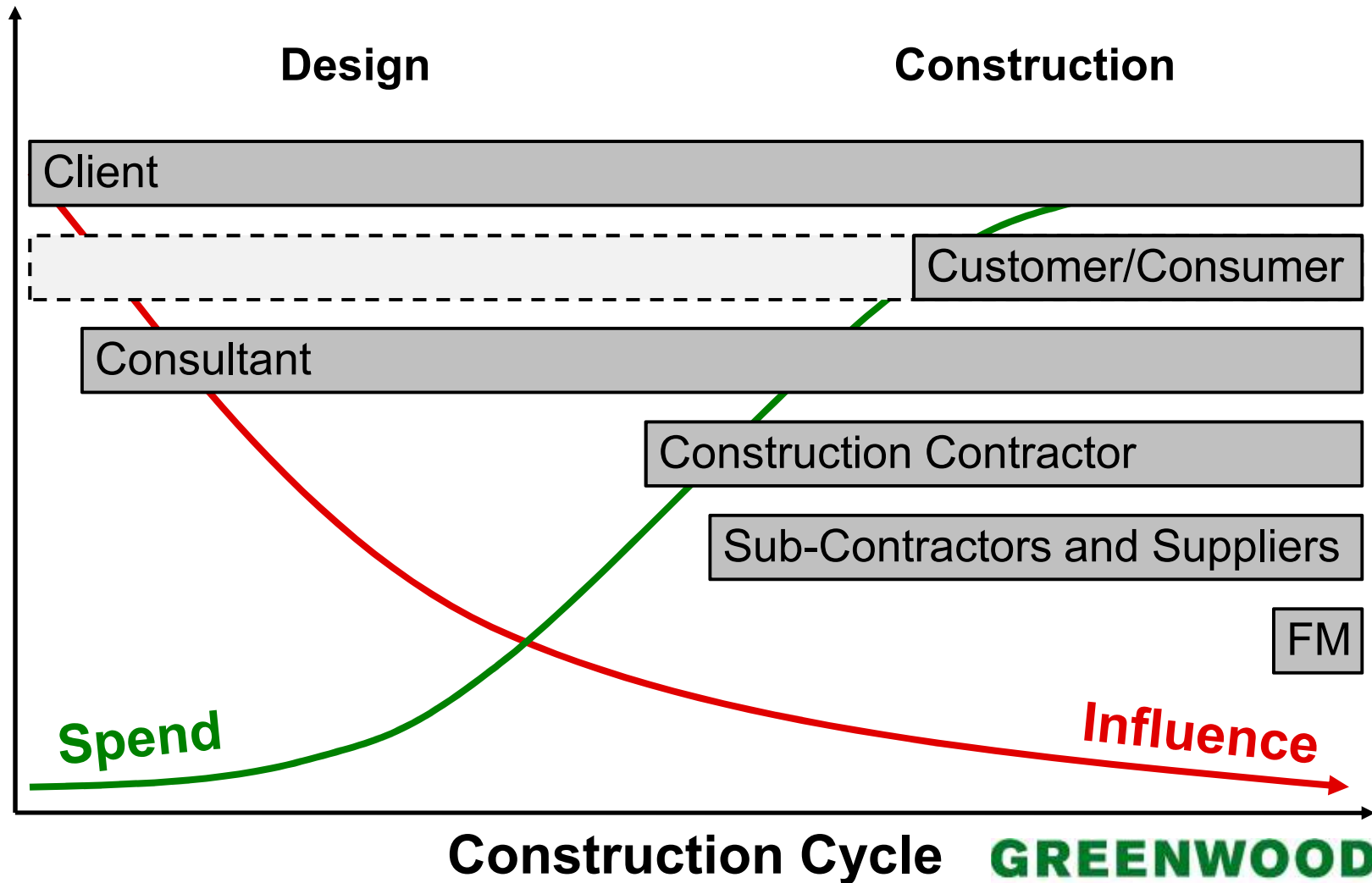


⇒ Key performance indicators



'Mutual Objectives' from 'Partnering in Practice', a Workshop for LB Newham, Paul R Greenwood, United House Ltd, May 2003.

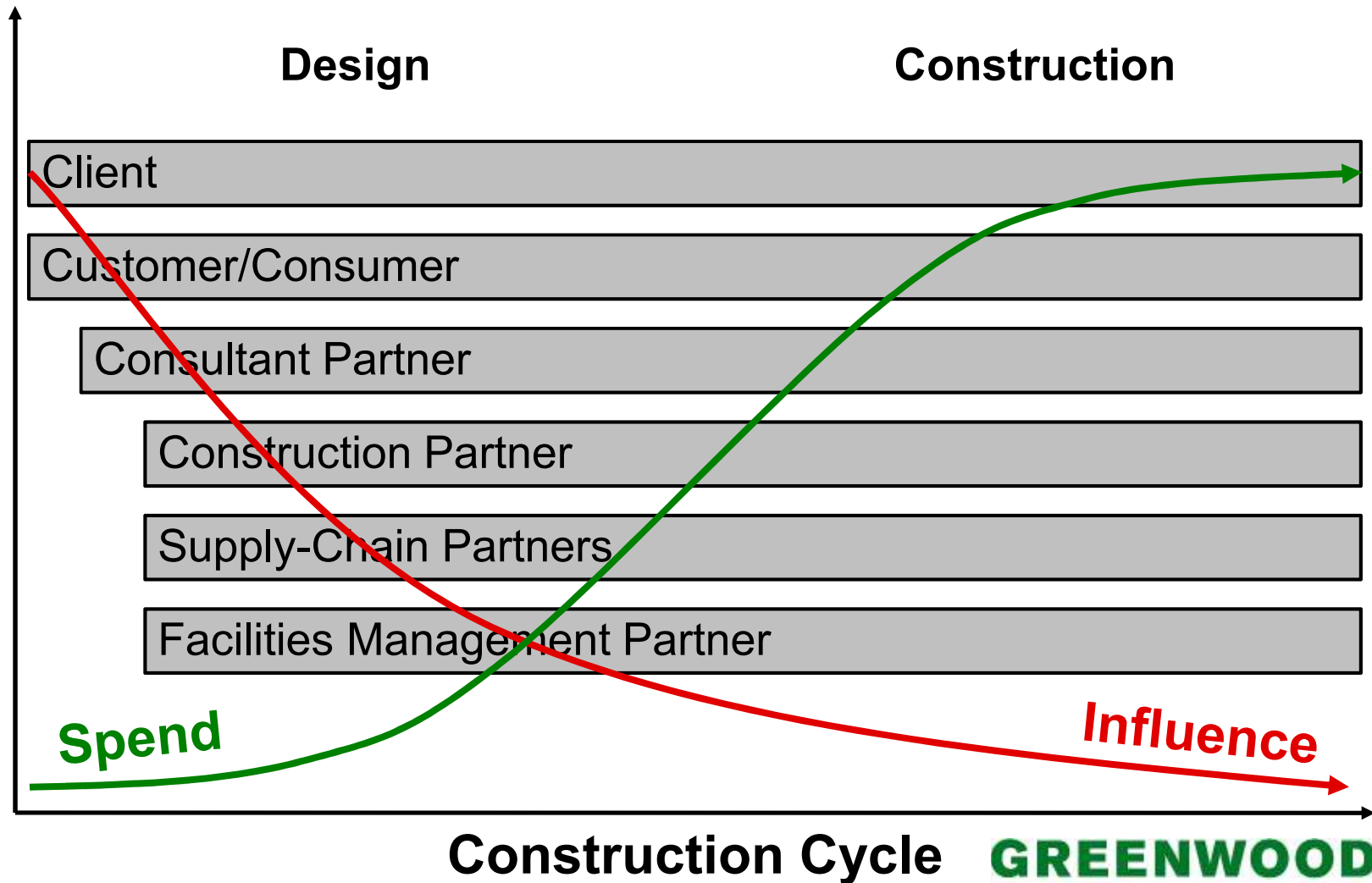
Involvement - Traditional Approach



Based upon: 'Improving Infrastructure Delivery: Alliancing Best Practice in Infrastructure Delivery', Infrastructure UK (IUK) and the Infrastructure Client Group, HM Treasury, September 2014.

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Involvement - Alliance Approach



Based upon: 'Improving Infrastructure Delivery: Alliancing Best Practice in Infrastructure Delivery', Infrastructure UK (IUK) and the Infrastructure Client Group, HM Treasury, September 2014.

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Risk from Early Involvement

Building.co.uk | Thursday 01 May 2014

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 **dropped from £50m London schools package**

1 May 2014 | By Allister Hayman and Joey Gardiner

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Exclusive: Disagreement over pricing sees Education Funding Agency remove five London priority schools from firm



has been dropped from a package of five priority schools in London worth nearly £50m after failing to reach an agreement over pricing, with the move raising wider concerns over the ongoing viability of the government's low-cost school building model.

was appointed to the £75m London batch of Priority School Building Programme (PSBP) schools last May, but has only proceeded on site with three of the eight schools in the batch.

It is understood that the remaining five schools have now been taken back by the Education Funding Agency (EFA) after the contractor and the client failed to come to an agreement over a price for two of the schools: Landsdowne School, a special school in Lambeth; and Hawkswood School, a pupil referral unit in Waltham Forest.

Related Articles

Government commits £2bn for school building work
1 May 14

B&K bags £36m batch of priority schools
30 Apr 14

Learning from primary school data
29 Apr 14

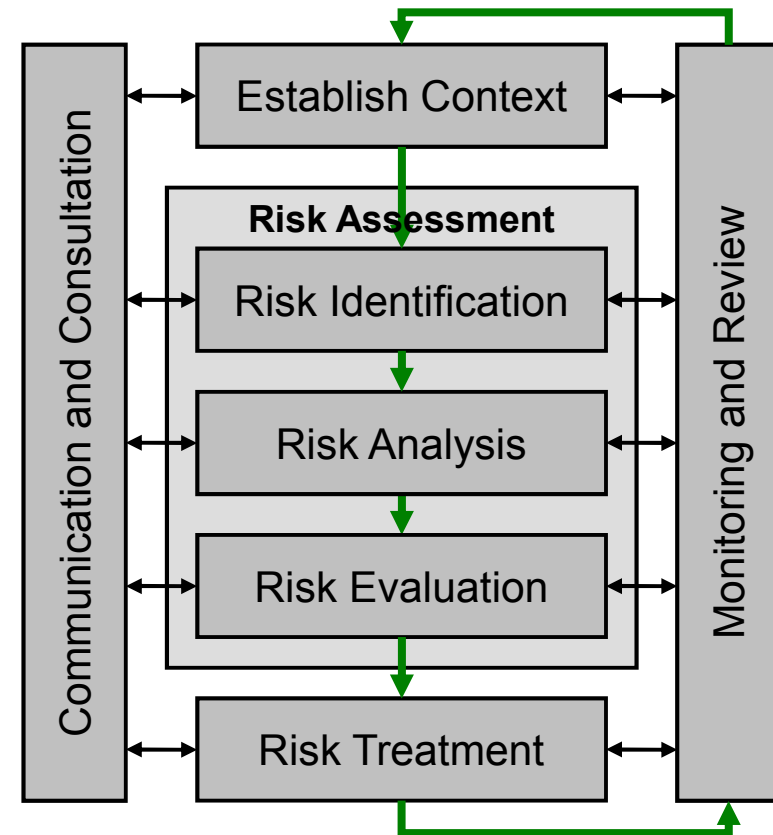
Firms line up for £5bn schools work
28 Apr 14

Bids invited for £150m Pf2 schools
4 Apr 14

'Building' magazine, website 1st May 2014.

Collaborative Risk Management

- Individual risks
- Joint risks
- Joint management process



ISO 31000:2009 'Risk Management - Principles and Guidelines'.

Revision: Draft 3

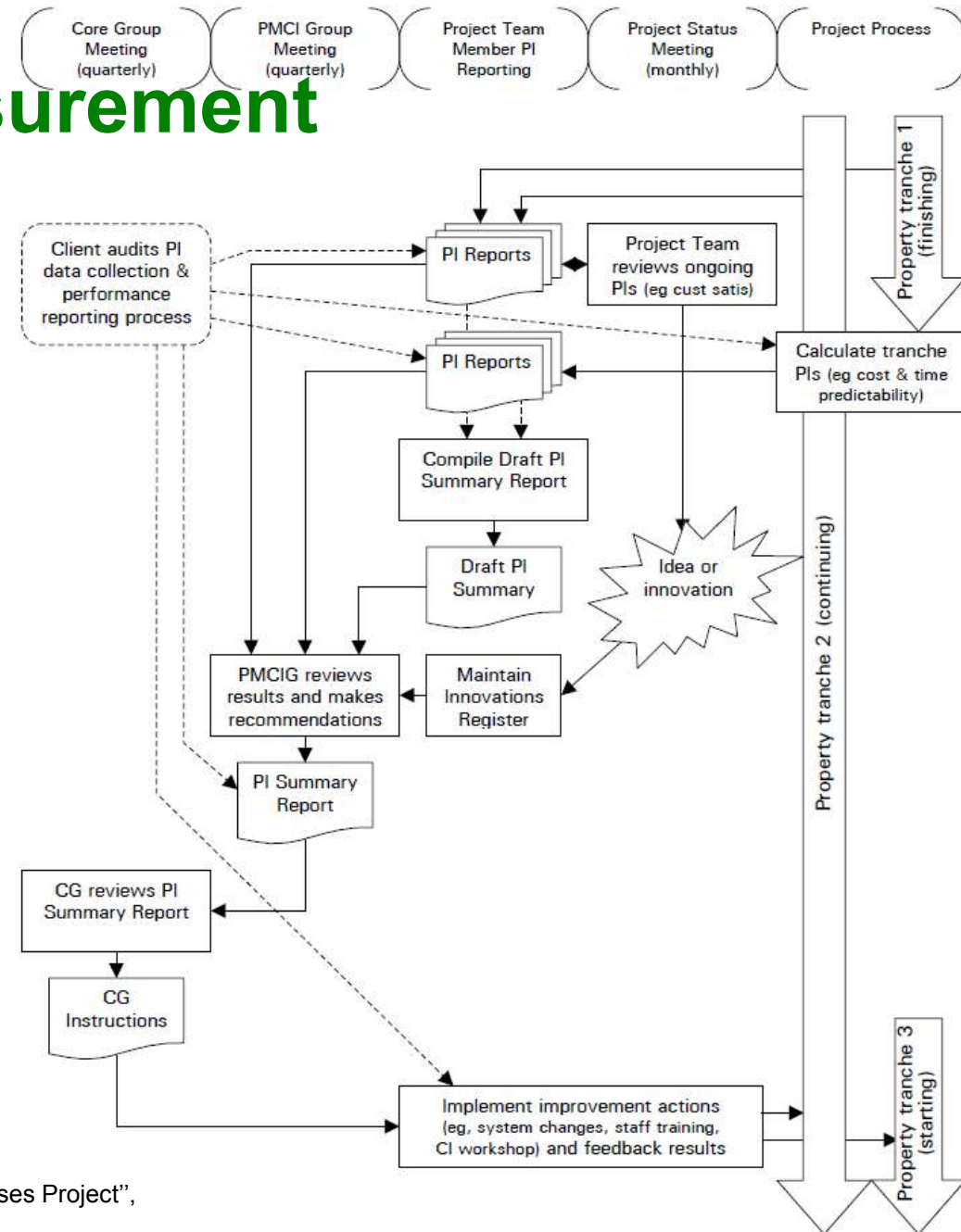
Date: 3 December 2007

| Risk No. | Risk Description | Consequence of Event | Stakeholder Affected | Initial Risk Likelihood (Probability) | Estimated Impact (Severity) | Impact Type (C.T.D.S. #) | Overall Rating (after action) | Preventive or Mitigating Action | Residual Management Action | Owner | Residual Risk Assessment Likelihood (after action) | Residual Risk Assessment Impact (after action) | Overall Rating (after action) | Review Frequency | Forum | Last Review | Next Review |
|--|--|---|--|---------------------------------------|-----------------------------|--------------------------|-------------------------------|--|--|----------------------------------|--|--|-------------------------------|---------------------------|-----------------|-------------|-------------|
| 8 OPERATIONAL PERFORMANCE (General) | | | | | | | | | | | | | | | | | |
| 8.1 | Planning restrictions limit the work that can be carried out and/or take excessive time to define restrictions | Scope of works and delay in programme | Client and constructor | 2 | 2 | | 6 | Identify where planning is required and review/resequence proposed programmes. | None | NH and Constructors | 1 | 2 | 6 | Monthly | Partnering Team | 28 Nov 2007 | 28 Dec 2007 |
| 4.1 (cont) | | | | 2 | 3 | | 6 | Identify those within scope of initial (S7M) and first replacements. | None | NH | 1 | 3 | 6 | Monthly | Partnering Team | 28 Nov 2007 | 28 Dec 2007 |
| 4.2 | Party Wall | Low rise blocks and street properties | Client and constructor | 3 | 3 | C T | 6 | Identify at pre-contract meetings (additional services) | None | NH and Consultants, Constructors | 1 | 1 | 6 | As required, per contract | Partnering Team | 28 Nov 2007 | |
| 4.4 | Lack of parking for staff/operators | Disruption of residents' parking. Reduced operational efficiency when moving between locations. Potential cost of alternative parking/transport arrangements. | Constructors | 3 | 2 | C T | 6 | Consult residents in advance. Arrange permits where possible. | None | Constructors NH | 2 | 1 | 6 | Quarterly | Partnering Team | 28 Nov 2007 | 26 Feb 2008 |
| 4.5 | Olympic developments | Traffic congestion | All | 3 | 3 | | 6 | None | None | NH | 1 | 3 | 6 | Quarterly | Core Group | 28 Nov 2007 | 26 Feb 2008 |
| 4.6 | Infra developments elsewhere in Newham for Olympics | Resources, traffic congestion, skills | All | 3 | 3 | T | 6 | None | None | NH | 1 | 3 | 6 | Quarterly | Core Group | 28 Nov 2007 | 26 Feb 2008 |
| 4.5A | Management of Asbestos for the programme | Compliance with HSG264 Regs and Asbestos Regs, etc. | Client and consultants | 4 | 4 | C T S | 10 | ISO to define type of surveys required. Beyond Type 2? | | NH (assisted by Partnering Team) | 2 | 2 | 10 | Quarterly | Partnering Team | 28 Nov 2007 | 26 Feb 2008 |
| 4.5B | Management of Asbestos for the programme | Delay in operations and disruption of programme once asbestos is discovered due to surveys/contractors | | 4 | 3 | C T S | 10 | Define Type 2 surveys undertaken in time. Consider permitting Constructors to carry out surveys through specialist contractors | | Partnering Team | 2 | 2 | 10 | Quarterly | Partnering Team | 28 Nov 2007 | 26 Feb 2008 |
| 4.5C | Management of Asbestos for the programme | Delay to contract programme when found. Potential safety hazard. | Constructor and their staff and operations | 2 | 2 | T C S | 4 | Identify early and take avoiding/reprogramming action | Review any reports of discovery of additional asbestos. | Partnering Team | 2 | 2 | 4 | Quarterly | Partnering Team | 28 Nov 2007 | 26 Feb 2008 |
| 4.9 | Working at height (general) | Potential for accident | Constructor | 3 | 4 | S | 10 | Constructor H&S programme | Review Constructor's site safety inspection and accident/incident reports at monthly project status meetings | Constructors | 1 | 4 | 10 | Monthly | Partnering Team | 28 Nov 2007 | 28 Dec 2007 |
| 4.10 | Tenant access to scaffolding | Potential for accident | Constructor | 3 | 4 | S | 10 | Constructor H&S programme, scaffolding method statements and inspections | Review Constructor's site safety inspection and accident/incident reports at monthly project status meetings | Constructors | 1 | 4 | 10 | Monthly | Partnering Team | 28 Nov 2007 | 28 Dec 2007 |
| 4.11 | Use of non-english speaking operatives | Poor communication, reduces resident satisfaction and operative safety | | 3 | 1 | S P | 6 | Constructor H&S programme, induction and ongoing training process and inspections | Review Constructor's site safety inspection and accident/incident reports at monthly project status meetings | Constructors | 2 | 3 | 6 | Monthly | Partnering Team | 28 Nov 2007 | 28 Dec 2007 |
| 4.12 | Availability of warning list (operatives continue without adequate notification) | Potential for incident/accident | All | 3 | 1 | S | 6 | Communicate warning list | Regularly review the supply of addresses against programme. | NH | | | 6 | Quarterly | Partnering Team | 28 Nov 2007 | 26 Feb 2008 |

'Risk Assessment - Newham Framework Contracts',
Paul R Greenwood, United House Ltd, December 2007.

Performance Measurement

- Performance measurement and continual improvement embedded



'Value Improvement Process - Stort Valley HA 'Delivery of Promises Project'',
Paul R Greenwood, United House Ltd, June 2003

Performance Measurement

- Performance measures (KPIs) based upon collaborative objectives



Newham Homes Framework
PROJECT PERFORMANCE INDICATORS
Rev 3

INTRODUCTION

This specification defines the general Key Performance Indicators (KPIs) and Secondary Performance Indicators (SPIs) to be used on each of the projects within the Newham Homes Framework. It is expected that this specification will be tailored to meet the specific requirements and targets of individual contracts within the framework.

PI definitions are based, generally, upon the standard Constructing Excellence (CE) Housing Repair & Maintenance and Refurbishment KPIs.

Points requiring particular discussion/definition/clarification are highlighted in yellow.

REVISIONS

Changes since the last issue are identified by a line in the right margin. Example

| Rev | Date of issue | Changes and/or purpose of issue |
|-----|-------------------------------|---|
| 3 | 3 rd December 2007 | Third issue, developed at a client and consultant workshop on 28 th November 2007. Changes include: <ul style="list-style-type: none"> SPI 11.1, Safety (Constructor's Site Inspection) removed (retain as monthly project mtg agenda item). KPI 13, 'Waste' and KPI 14, 'Local Training Opportunities' remain to be developed. Other detailed changes as marked. |

PERFORMANCE MEASURES

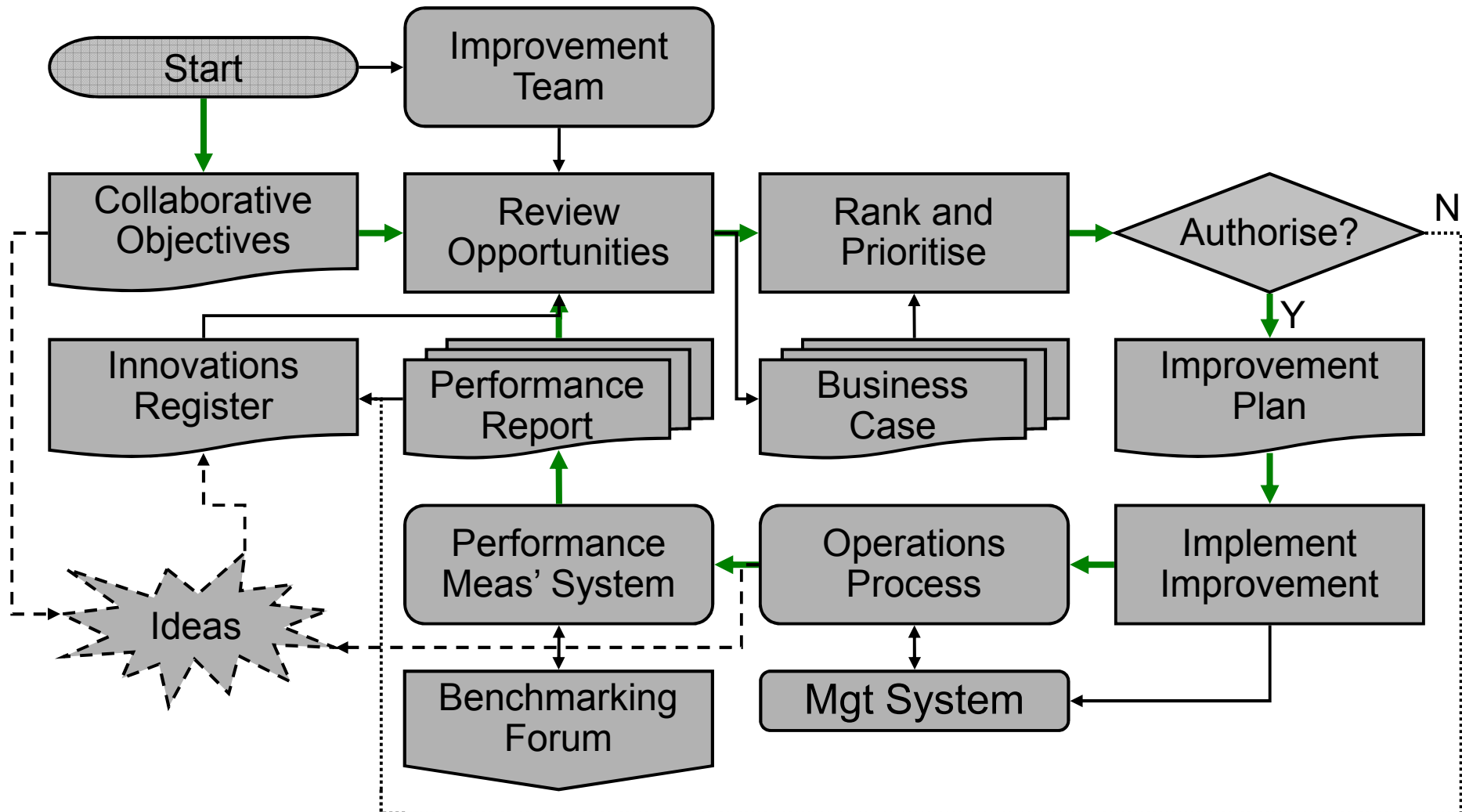
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|------|--|----|
| 1 | Commissioning Client Satisfaction - Product | 2 |
| 2 | Commissioning Client Satisfaction - Service | 3 |
| 3 | Constructor Satisfaction - Overall Performance | 4 |
| 4 | Consultant Satisfaction | 5 |
| 5 | Constructor Satisfaction with Supply-Chain | 6 |
| 6 | Customer (Resident) Satisfaction - Product | 7 |
| 7 | Customer (Resident) Satisfaction - Service | 8 |
| 8 | Defects (Impact on Client) | 9 |
| 8.1 | Snagging at Handover (SUSPENDED) | 10 |
| 8.2 | Defects after Handover | 11 |
| 9 | Predictability - Cost - Construction Phase | 12 |
| 10 | Predictability - Time - Construction Phase | 13 |
| 10.1 | Time in Property | 14 |
| 11 | Safety (Accident Incident Rate) | 15 |
| 12 | Average Unit Cost (Internals) | 16 |
| 13 | Waste | 17 |
| 14 | Local Training Opportunities | 18 |

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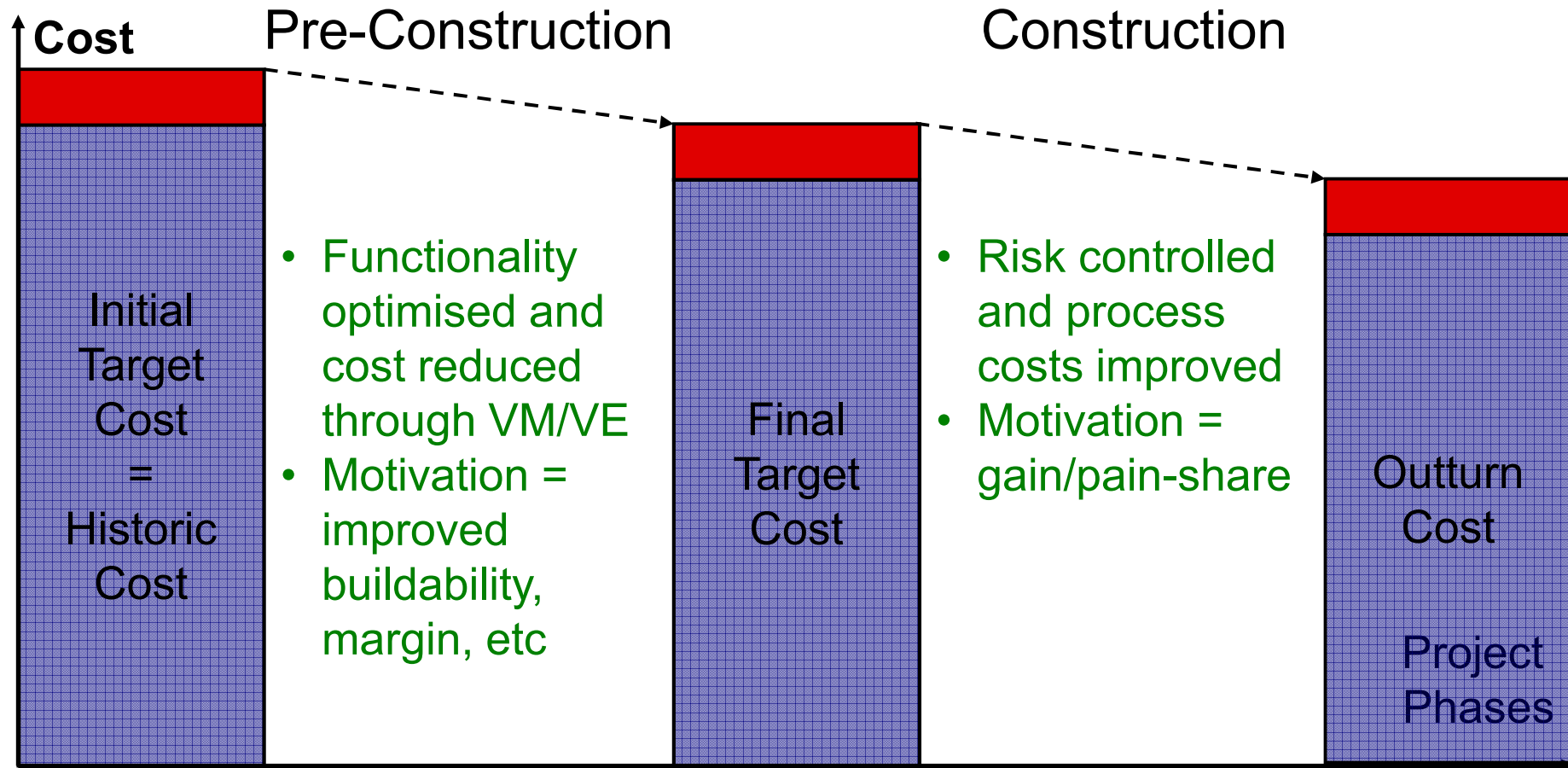
'Project PI Specification - Newham Framework',
Paul R Greenwood, United House Ltd, December 2007.

Value Improvement



Based upon 'Performance Improvement Cycle', Portsmouth CC GCH Project,
Paul R Greenwood, United House Ltd, February 2002.

Value Improvement



'Performance Improvement Cycle', Portsmouth CC GCH Project,
Paul R Greenwood, United House Ltd, February 2002.

Cost Improvement

PORTSMOUTH CITY COUNCIL - HOUSING SERVICE

REAL COSTS

Based on 'typical' three bedroom combination system

Outturn costs established @ £2650 by contractor

Costs optimised to £2350

Current unit costs £2300 - two years on!

Constructing Excellence/Housing Forum,
Demonstration Project Peer Group Assessment

Benefits for Portsmouth City Council

- Ability to manage a significant increase in budget spend
- Greater certainty of performance
- Better use of scarce management/professional resources
- Greater speed & flexibility in meeting Decent Homes
- More installations completed for the same budget
 - Tendering costs over five year cycle £14k pa
 - Staff savings for contract admin on heating installations £60k pa
 - Staff savings for admin on gas servicing and repairs £80k pa



Construction News Awards,
Small Project of the Year Award Interview

Cost Improvement

Performance Analysis

Summary

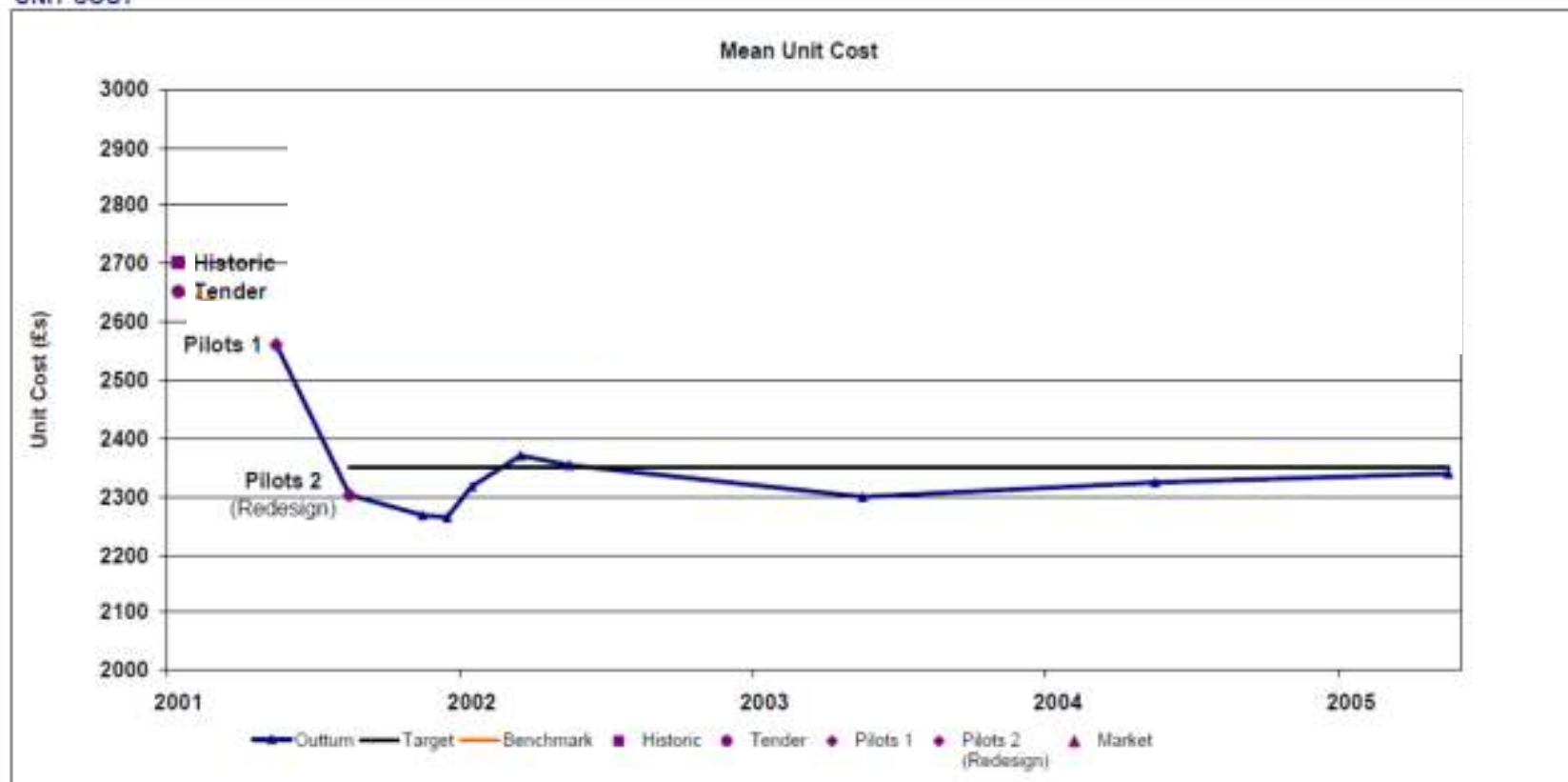
UNITED HOUSE

Division: **Building Services**

Project: **B102/109/114, Portsmouth Central Heating Partnership**

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.
Now includes the effect of end of year bulk purchase rebates.

'Cost Performance', Portsmouth CC GCH Project,
Paul R Greenwood, United House Ltd, March 2006.

Page 1 of 1.

Client Satisfaction

| | | |
|--|---------------------|--------------|
| Client Satisfaction Analysis | Performance Summary | UNITED HOUSE |
| Project: C219, Delivery of Promises, South Anglia | | |
| Area/Block/Package: All | | |
| Report Date: 29th July 2008 | | |
| Client Satisfaction Product (CE STD) | | |

Performance Analysis

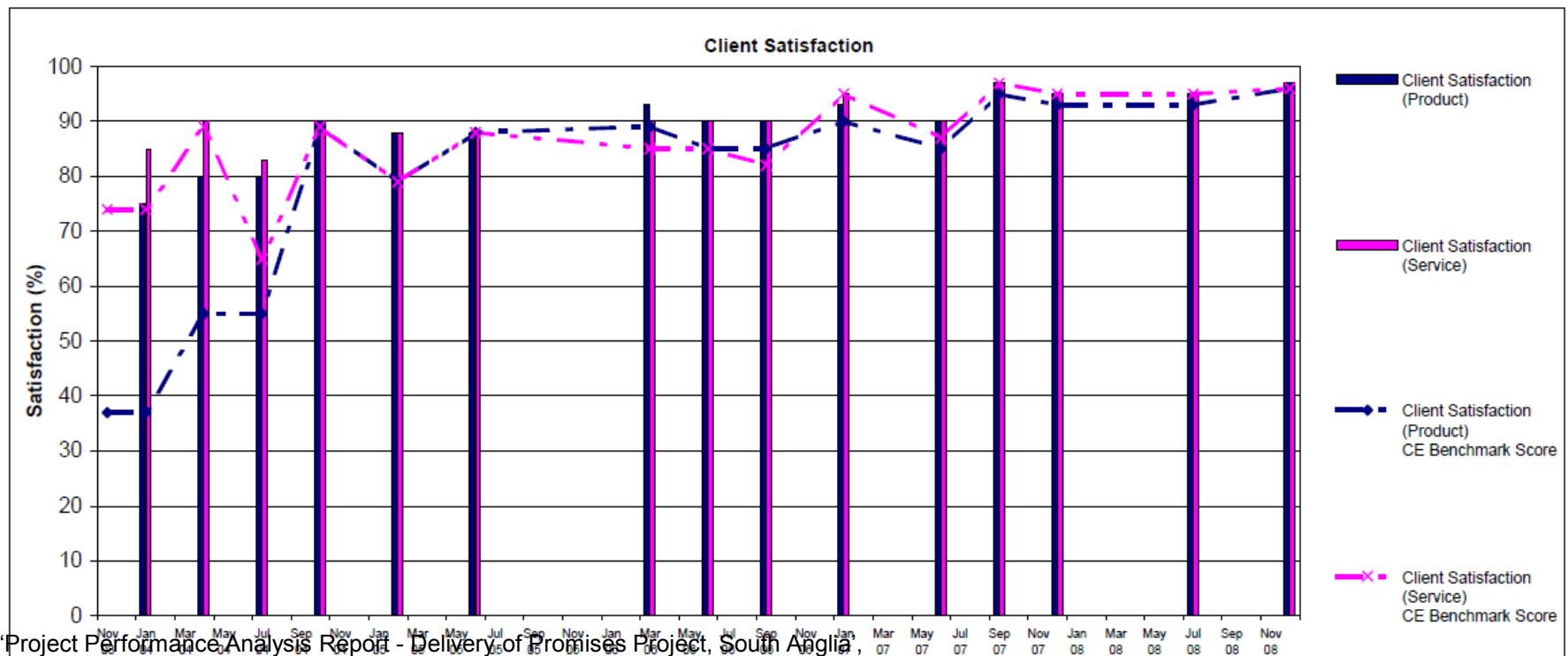
Project Summary



Project: **C127, C170, C181, C206 and C219, Delivery of Promises, South Anglia (Stort Valley HA)**

Report Date: **11th December 2008**

CLIENT SATISFACTION



Project Performance Analysis Report - Delivery of Promises Project, South Anglia,
Paul R Greenwood, United House Ltd, December 2008.

Trust

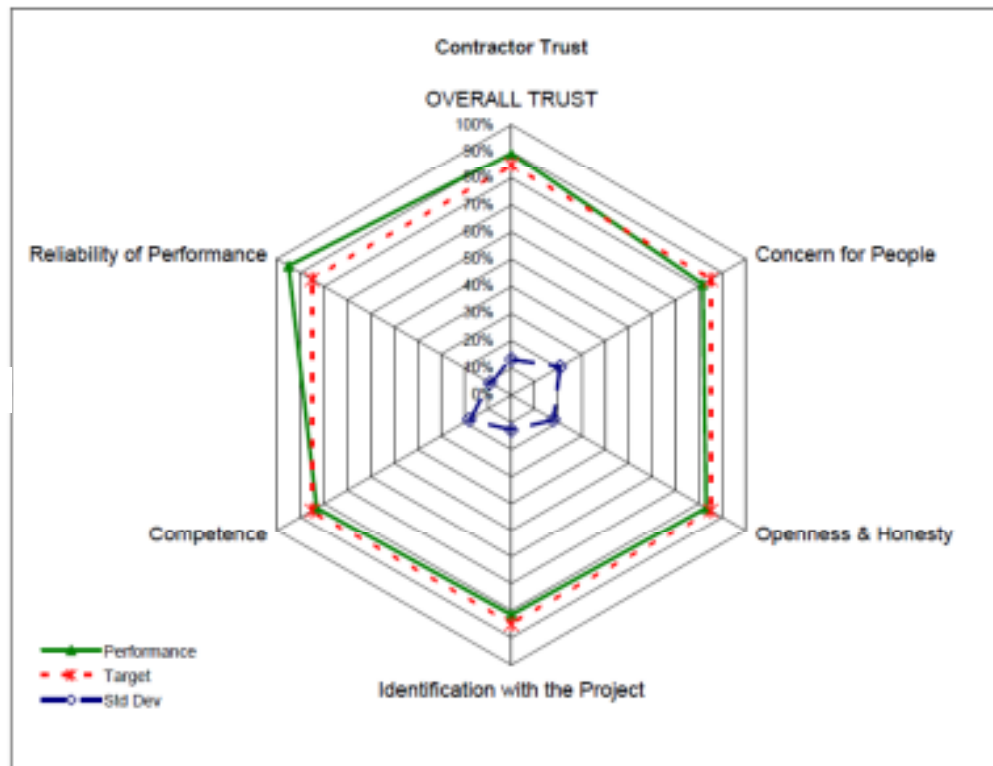
| Sub-Contractor Trust Analysis | | Performance Summary | UNITED HOUSE |
|--|--|---------------------|--------------|
| Project: B102, Portsmouth Central Heating Partnership | | | |
| Occasion: Sub-Contractor Partnering Review Workshop | | | |
| Report Date: 2nd April 2002 | | | |
| Overall Survey Response | | | |
| No of Requests | | 18 | |
| No of Replies | | 13 | |
| Response Rate | | 72% | |

Sub-Contractor Trust Analysis Performance Summary Chart UNITED HOUSE

Project: **B102, Portsmouth Central Heating Partnership**

Occasion: **Sub-Contractor Partnering Review Workshop**

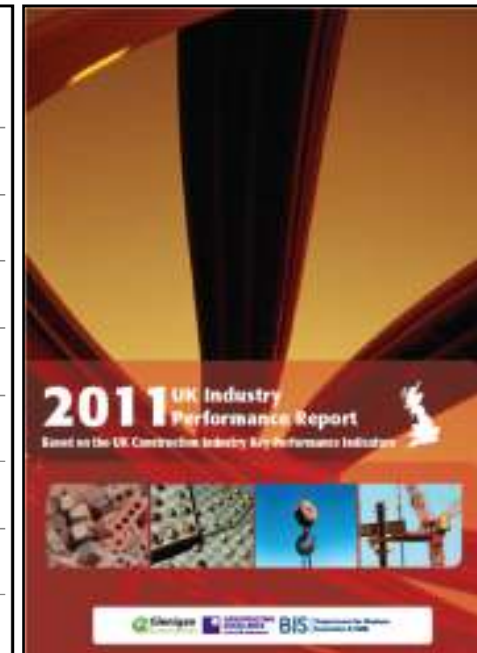
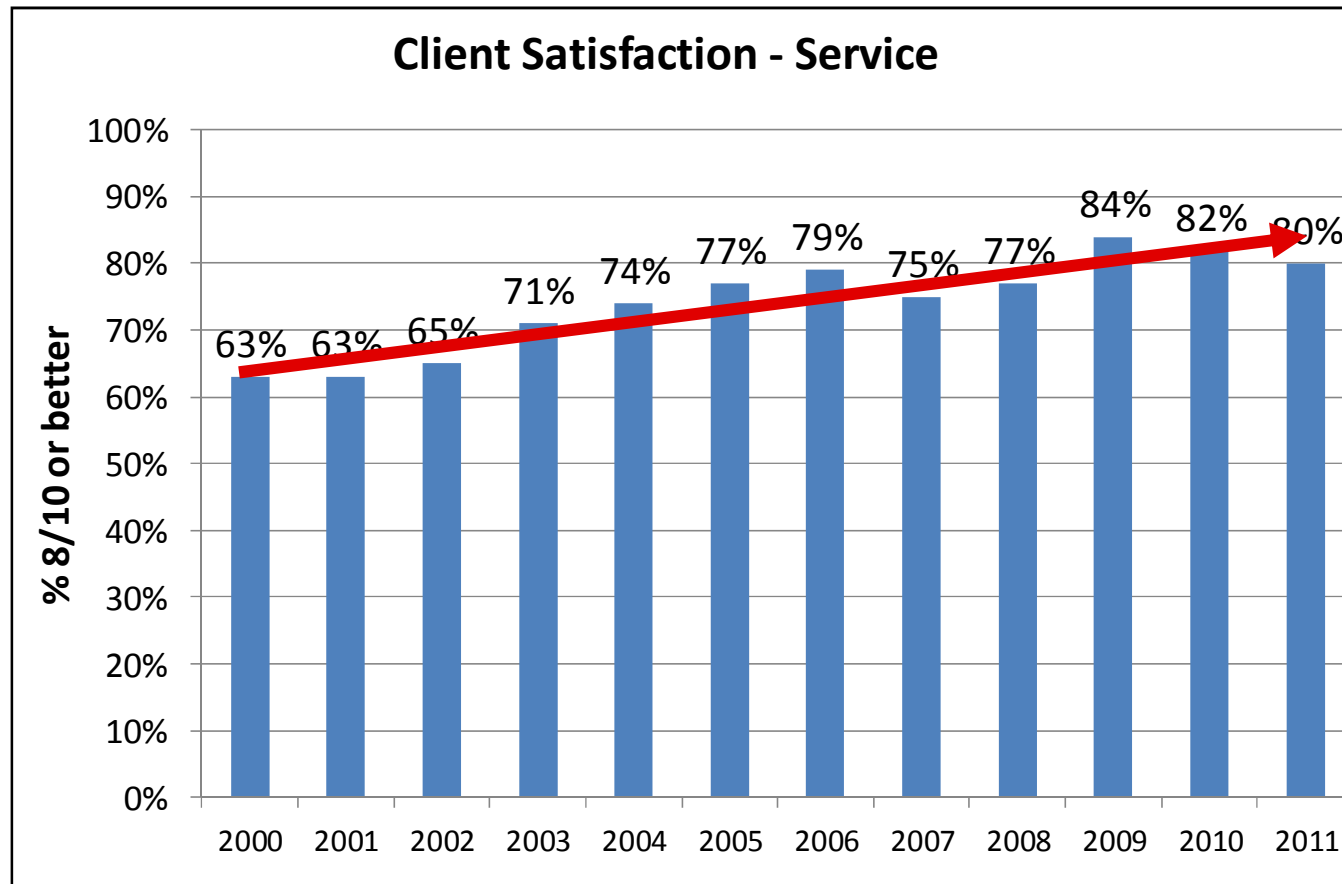
Report Date: **2nd April 2002**



Based upon the 'Organizational Trust Index',
from 'Measuring Organizational Trust - Cross Cultural Survey and Index',
Shockley-Zalabak, Morley, Cesaria, and Ellis, IABC Research Foundation, 2000.

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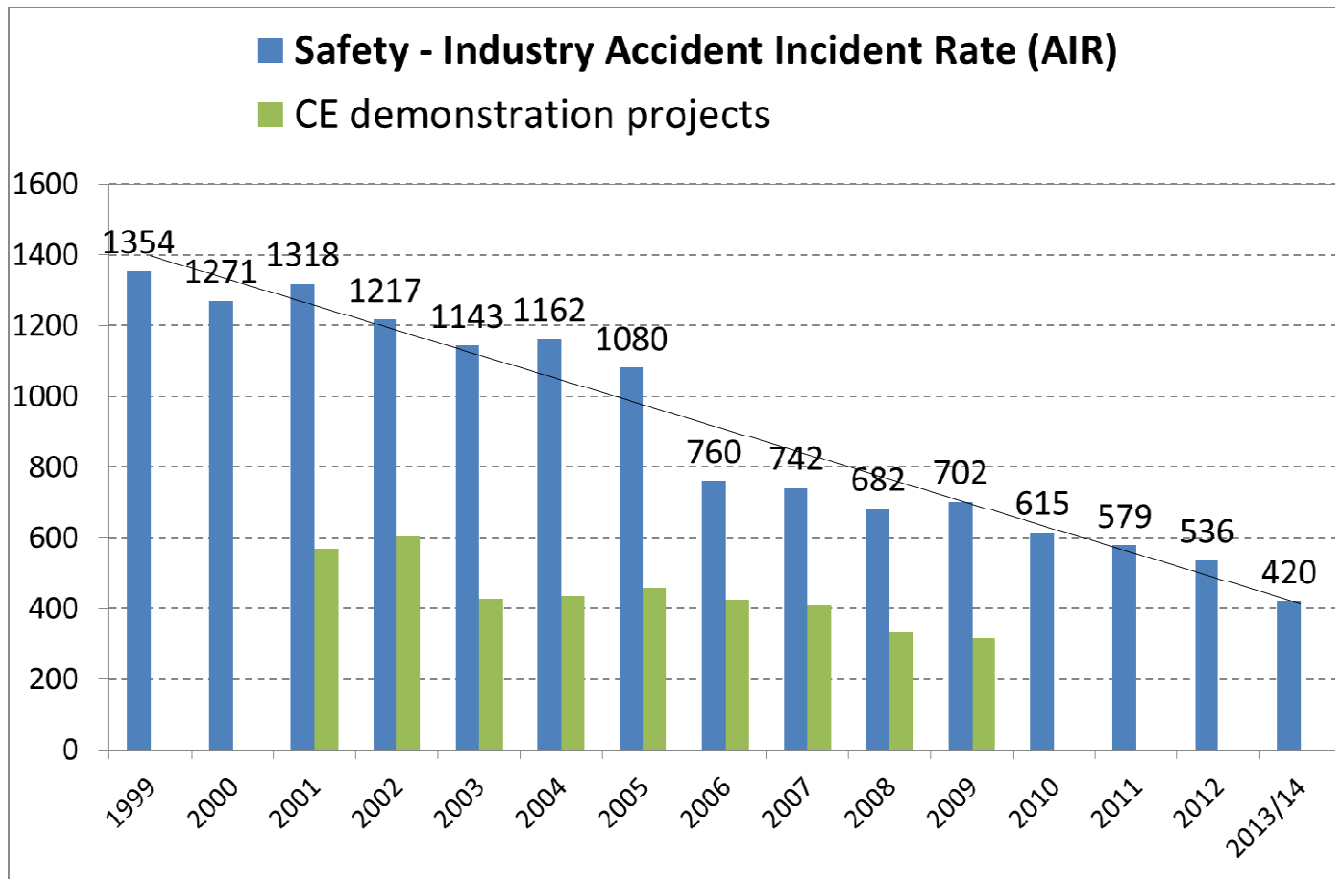
Improvement in Client Satisfaction



'UK Industry Performance Report',
Glenigan, Department for Business Industry and Skills and Constructing Excellence, 2011.

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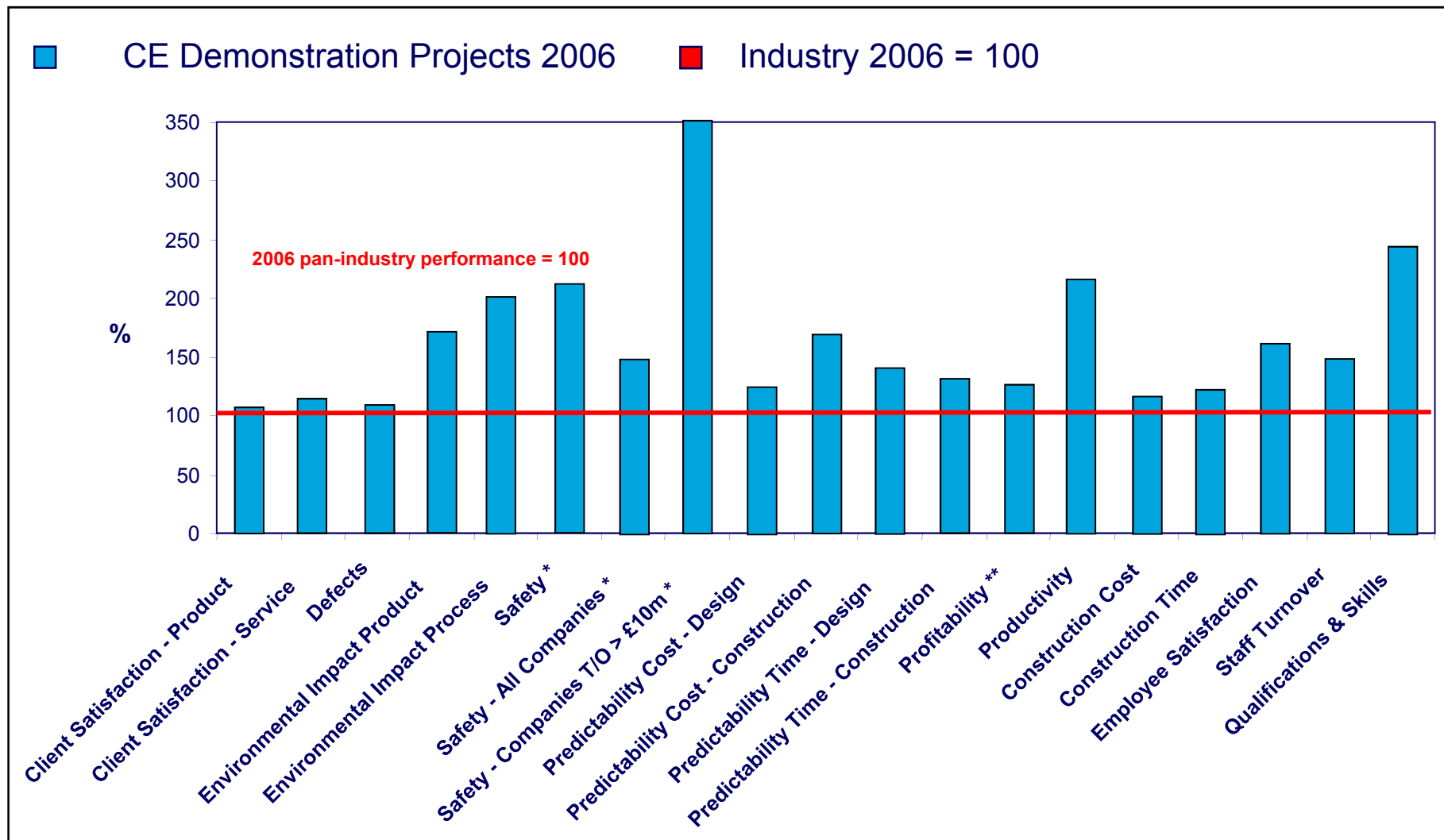
Improvement in Safety



'UK Industry Performance Report',
Glenigan, Department for Business Industry and Skills, CITB and Constructing Excellence, 2014.

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Demonstration Projects Out-Perform Industry



Constructing Excellence, Demonstration Projects Report, 2006.

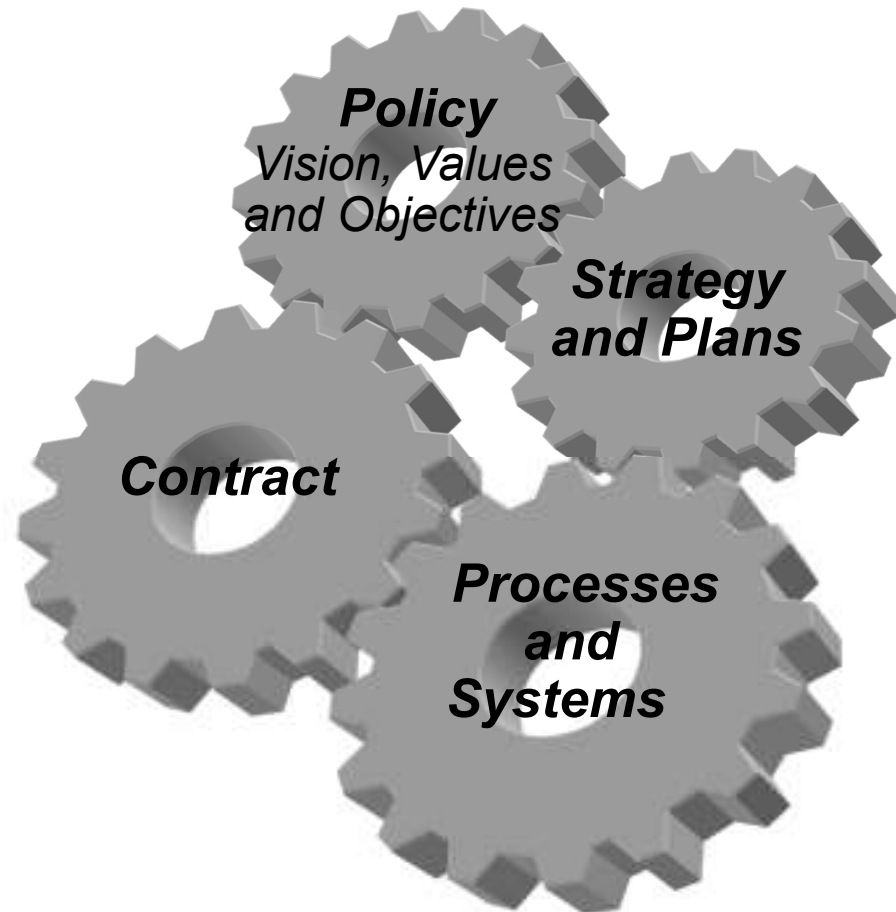
Contracts and Frameworks

Structures to Support Collaboration

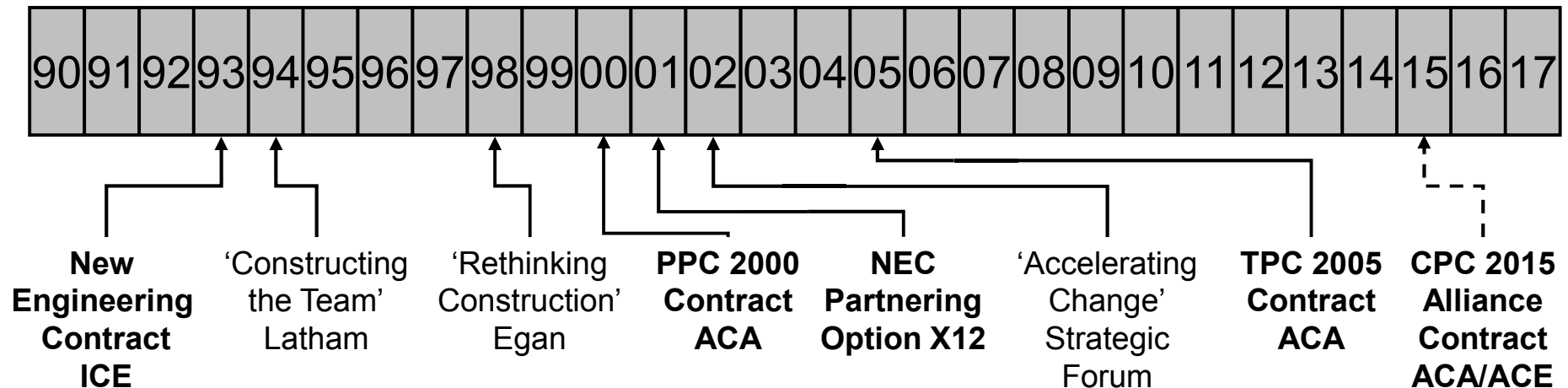
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Contracts

- Promote and provide a framework for collaboration
 - Policy and objectives
 - Governance
 - Planning
 - Risk management
 - Value management
 - Knowledge management
 - Innovation
 - Continual improvement
 - Incentivisation
 - ...
 - End/exit



Contracts and Frameworks



'Contracts and Frameworks Timeline',
Paul R Greenwood, Greenwood Consultants, November 2014.

ECC + Partnering Option X12

- A non-adversarial form of contract
“co-operate with each other in good faith”
- Published by Thomas Telford, 1993
- Partnering Option published 2001
- Privity of contract
 - separate contracts for each team member
- Six main Options
 - Option X12 - Multi-Party Partnering
 - Option C - Target Cost with Activity Schedule
 - basis for incentivisation with pain/gain-share
- Non-traditional contractual processes
- International version now used in Europe, Middle East and Hong Kong



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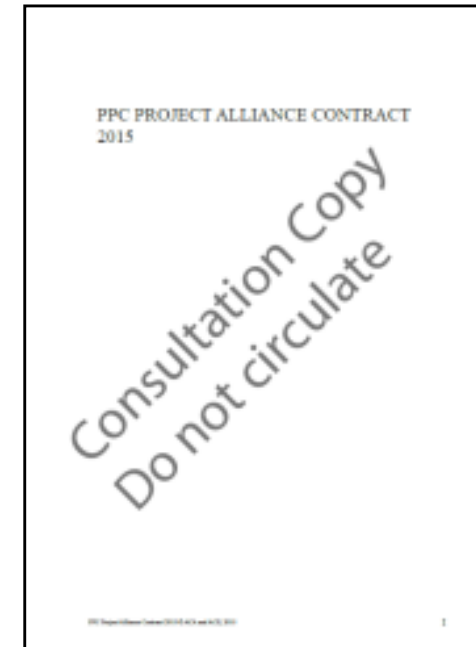
PPC2000 and TPC2005

- First standard forms of project partnering and term partnering contracts
- Published by the Association of Consulting Architects, 2000 and 2005
- Now promoted jointly by ACA and ACE
- Multi-party contracts, promoting integrated relationships, with mutually enforceable rights, responsibilities and remedies
- Applicable to products and services
- Binding forms
- Integrated partnering processes
- Most common partnering form in UK
- International version available



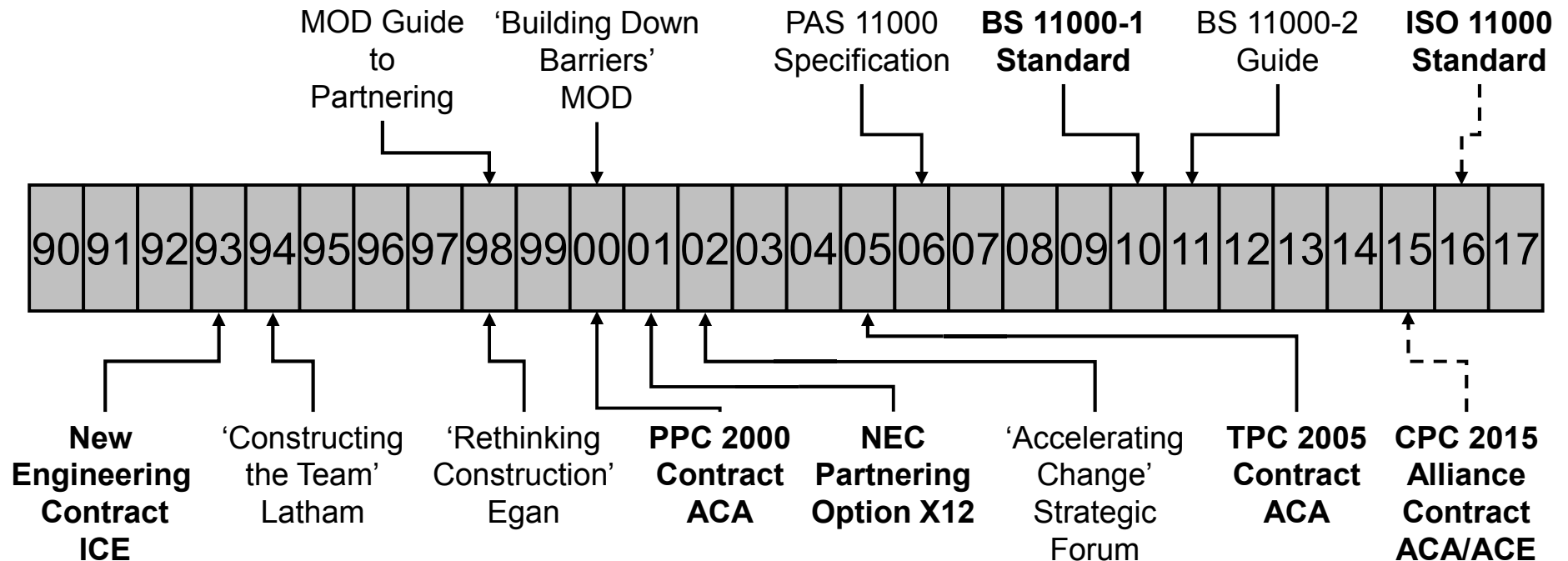
PPC 2015

- Suite of Framework, Project and Term Alliance contracts
- To be launched by the Association of Consulting Architects, in October 2015
- Promoted jointly by ACA and ACE
- Multi-party contracts, for integrated relationships
- Applicable to production and/or service activities
- Binding form
- Integrated partnering processes
- International version expected



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Contracts and Frameworks



'Contracts and Frameworks Timeline',
Paul R Greenwood, Greenwood Consultants, November 2014.

BS 11000-1:2010

- Framework for collaborative business relationships
- A British Standard, developed by the Institute for Collaborative Working
- Published 2010 [and Guide, 2011]
- Applicable from concept to exit
- First national standard of its type
- Used with a compatible contract
- Implemented internationally
- An International Standard, ISO 11000, is expected late-2016

BS 11000-1:2010 Collaborative Business Relationships

- Part 1: A Framework Specification.

BS 11000-2:2011 Collaborative Business Relationships

- Part 2: A Guide to Implementing BS 11000-1.



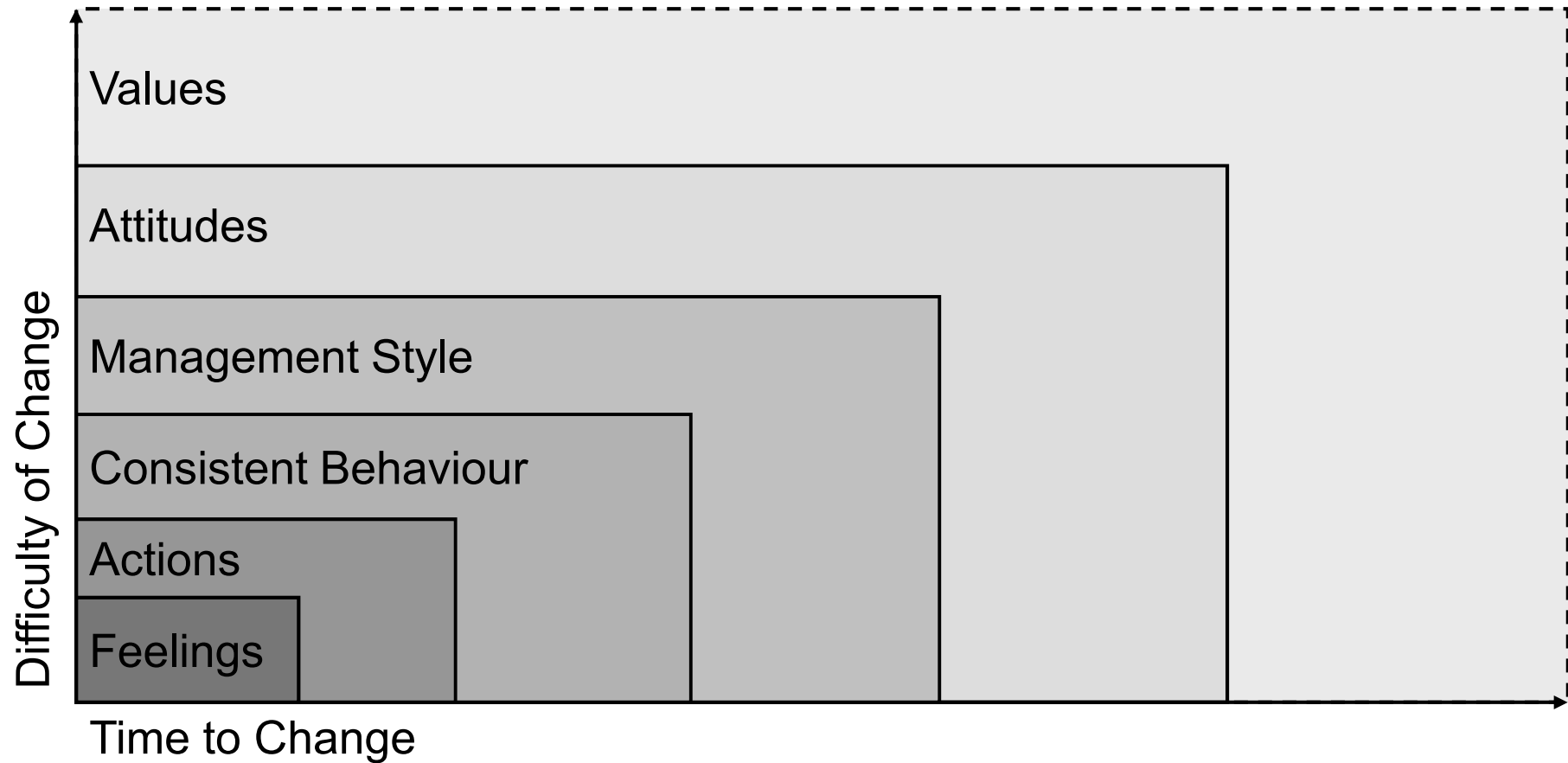


Making the Journey

Collaborative Culture Change

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Difficulty of Change and Time to Change



'Difficulty of Change and Time to Change',
'Creating Culture Change', Philip E Atkinson, 1990.

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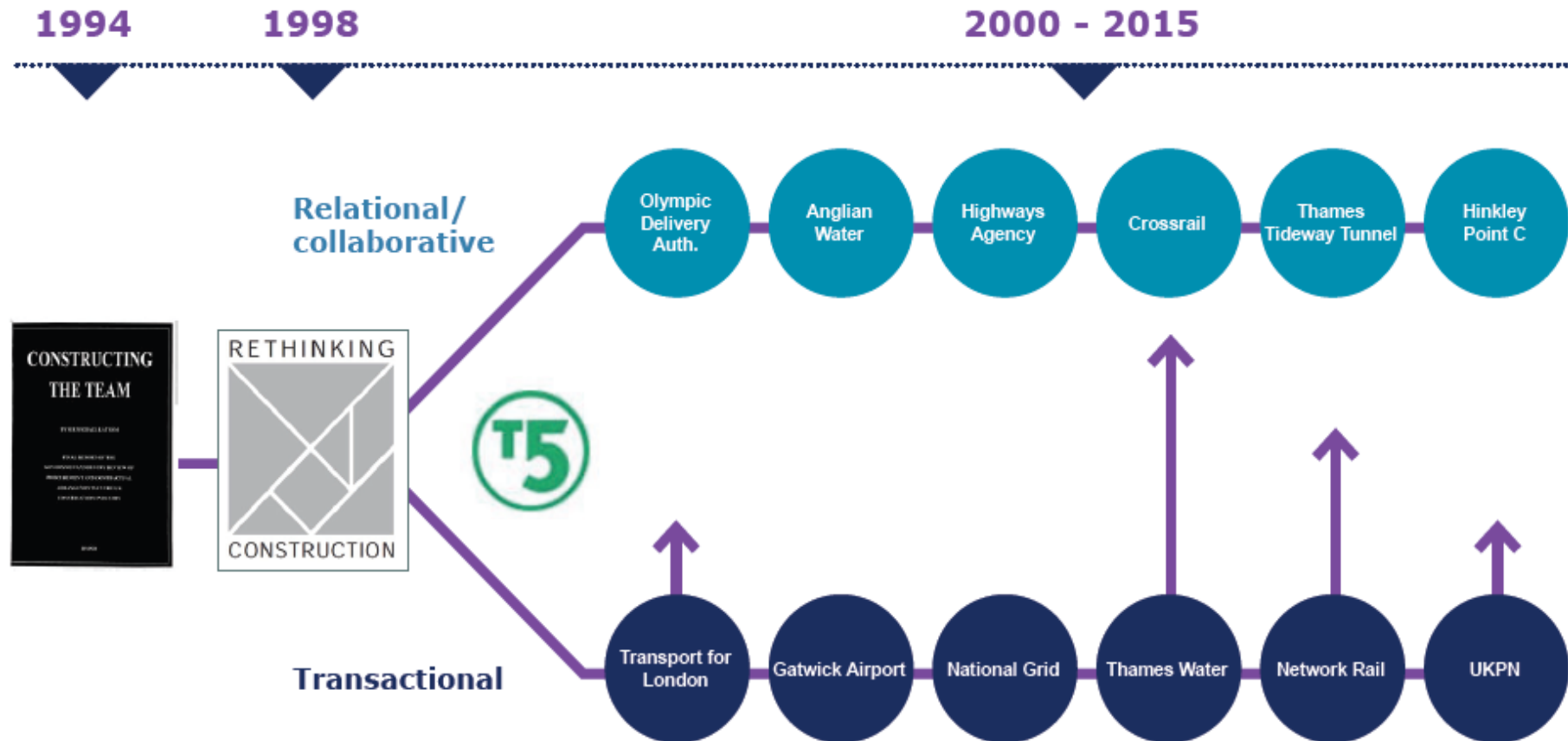
Kotter Eight-Step Model



'Leading Change: Why Transformation Efforts Fail',
John P Kotter, Harvard Business Review, March-April 1995.

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Major Infra Procurers Move to Collaborative/Relational Models



'An Industry Undergoing a Transformational Journey'
Murray Rowden, Chair of Constructing Excellence, CENE, May 2015.

Summary

- Collaboration does not happen by chance
 - Leadership and vision
 - Collaborative culture and behaviour
 - Collaborative processes and tools
 - ...
- Established construction-specific models
 - Early involvement
 - Selection by long-term value
 - Aligned commercial arrangements
 - Common processes and tools
 - Performance measurement
 - Long-term relationships
 - ...

... its about competence and behaviour

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