

# **COLLABORATION BIM and BS 11000**

Paul R Greenwood  
Managing Director  
Greenwood Consultants

Constructing Excellence Kent Club  
15<sup>th</sup> July 2015, University of Kent  
@CEKent\_Branch #CEKentBIM

**GREENWOOD**  
CONSULTANTS

# 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

@GreenwoodCLtd GreenwoodConsultants.com

**GREENWOOD**  
CONSULTANTS



# Agenda

- Vision for BIM and Collaboration
- Drivers for Change
- Principles of Collaborative Working
- Background to BS 11000
- The BS 11000 Framework
- Stages 1 to 8
- BS 11000 Themes
- BS 11000 Benefits



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Vision for BIM and Collaboration

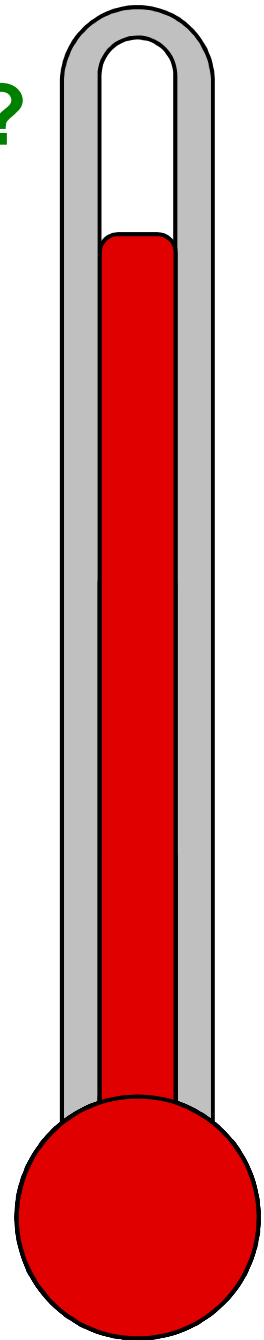


# Tomorrow's Collaborative Workforce



# What is Your Partnering Temperature?

- Strategic Partnering
  - Objectives + Incentivisation + Dispute Prevention + ...
  - Strategic alliance agreement + collaborative contract  
eg. SAA + PPC 2000 or TPC 2005
- Project Partnering
  - Partnering Charter + Objectives + Incentivisation
  - Non-confrontational form of contract  
eg. NEC, Opt C (Target), Opt X12 (Part'), Opt X20 (KPIs)
- Non-Confrontational Contract
  - No special mechanisms
  - Non-confrontational form of contract eg. NEC (ECC)
- Partnering Charter + Traditional Contract
  - Commitment to working together
  - Traditional form of contract eg. JCT



# Drivers for Change



**GREENWOOD**  
CONSULTANTS

# Drivers for Change

'Never Waste a Good Crisis',  
Constructing Excellence,  
Andrew Woolstenholme, 2009.

'2012 Construction Commitments',  
Strategic Forum 2012 Task Group, 2006.

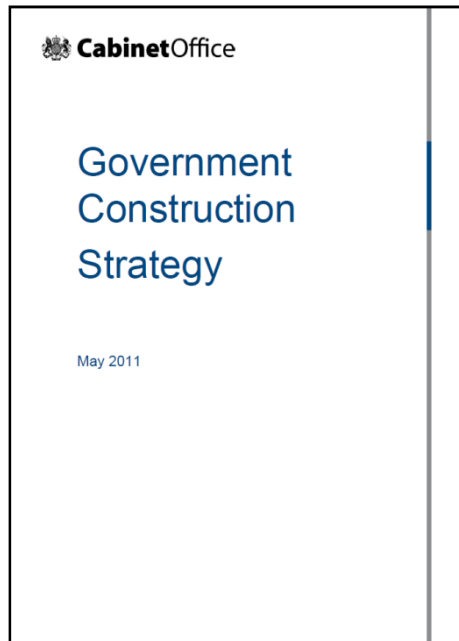
'Accelerating Change',  
The Strategic Forum for Construction,  
Chaired by Sir John Egan, 2002.

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

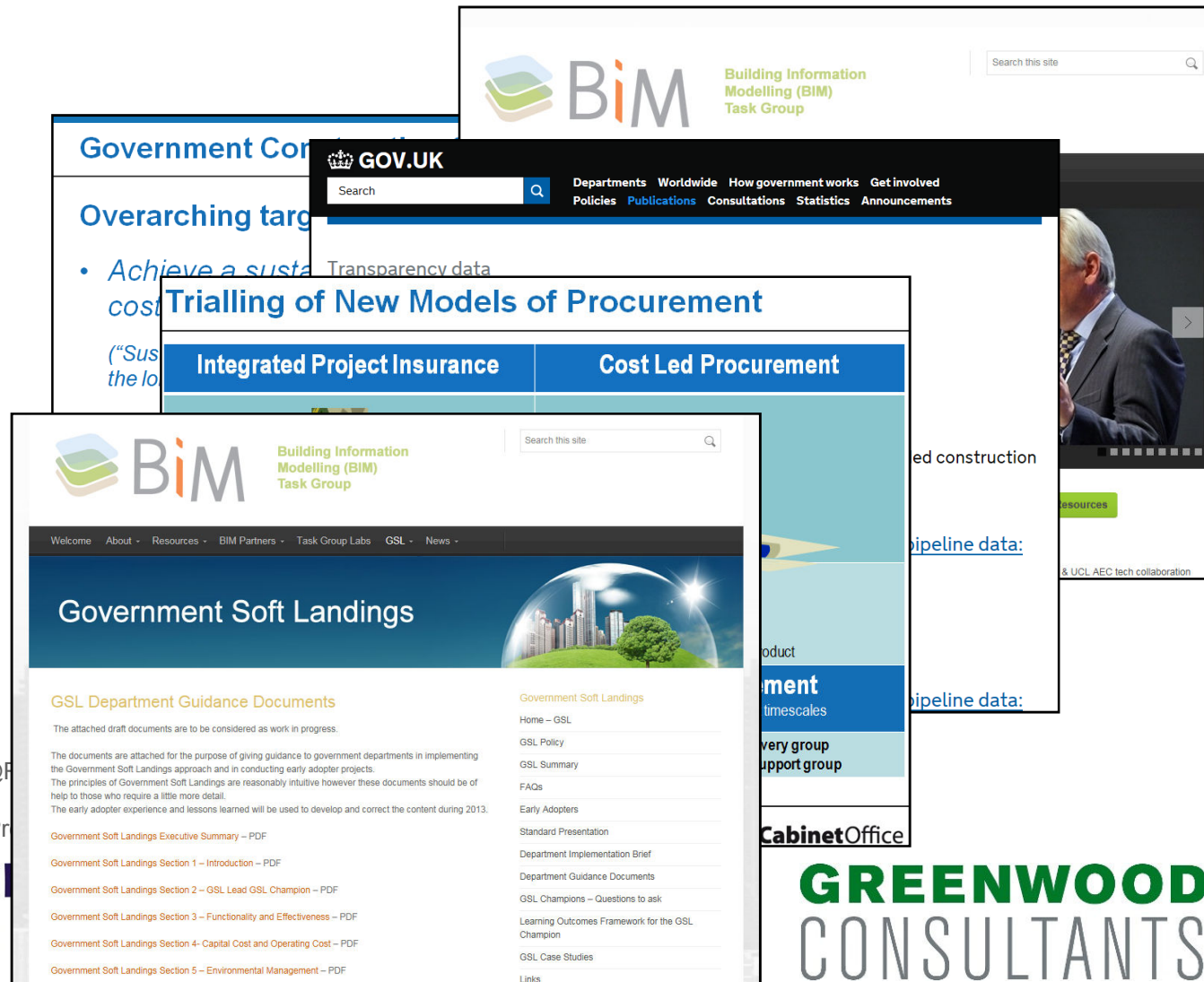
'Constructing the Team',  
Sir Michael Latham, 1994.



# Government Construction Strategy, 2011



Explanation courtesy of Rob Garvey @RobGarvey  
University of Westminster @UoWBECi  
Academic Partner, Government Trial Programme



# Government-Industry Joint Strategy Construction 2025, 2013



People

Smart

Sustainable

Growth

Leadership

**Lower costs**

33%

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

**Faster delivery**

50%

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

**Lower emissions**

50%

reduction in greenhouse gas emissions in the built environment

**Improvement in exports**

50%

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



**CONSTRUCTING  
EXCELLENCE**

Kent Club

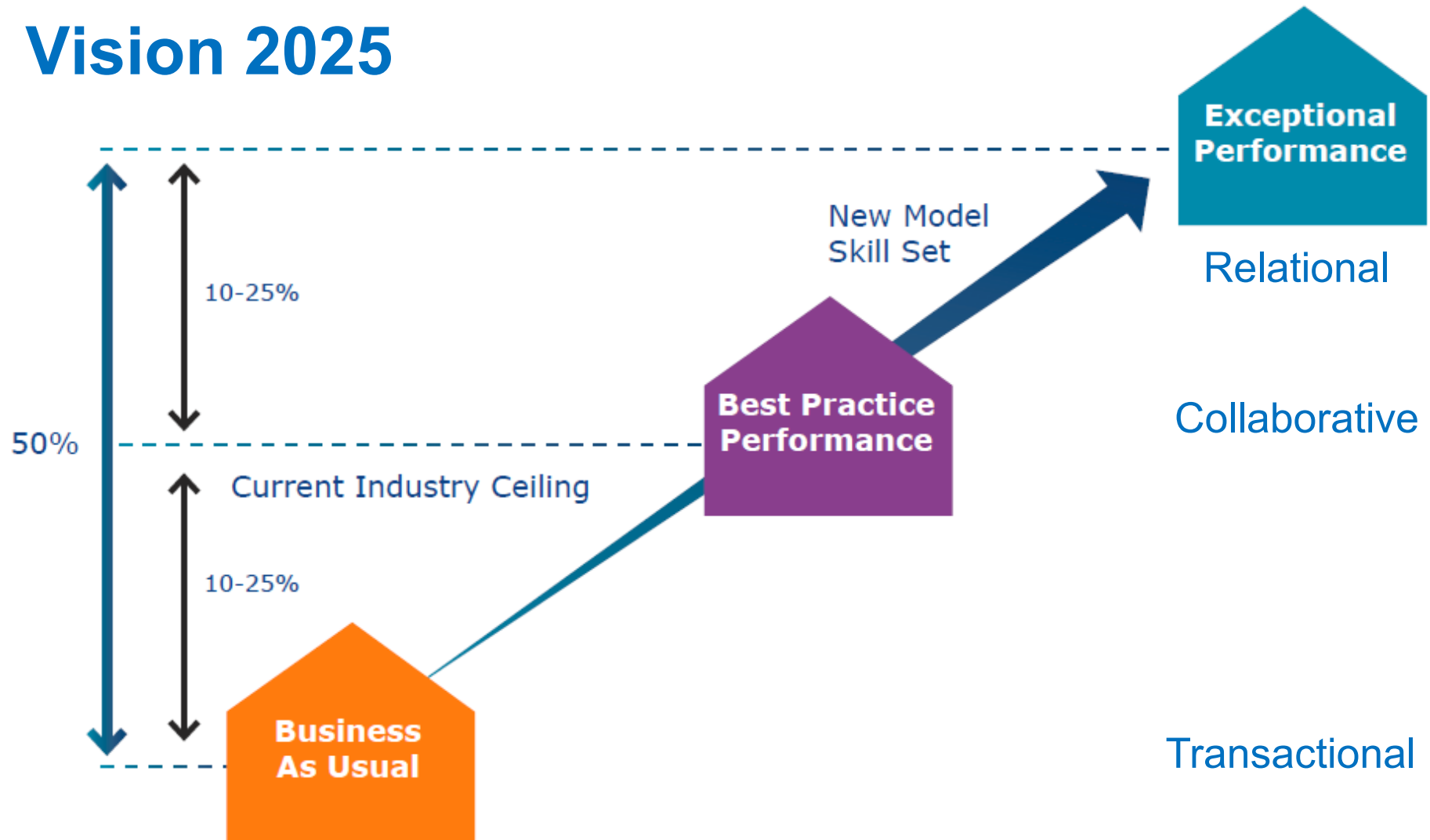
@CEKent\_Branch

#CEKentBIM

@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Vision 2025



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

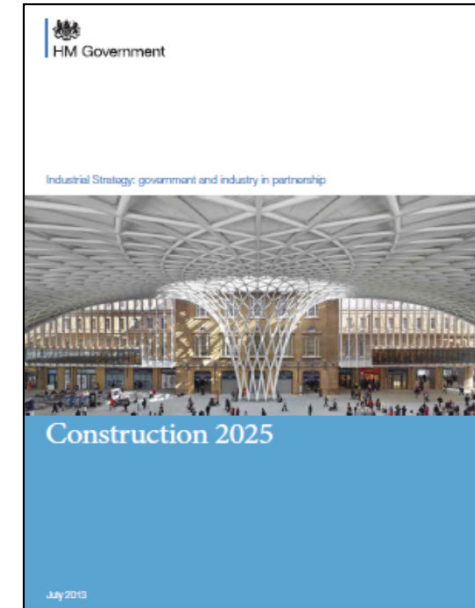
**GREENWOOD**  
CONSULTANTS

# Vision 2025 Issues ...

- Sustainability
  - Economic
  - Environmental
  - ...
- Value
  - Life Cycle
  - Risk
- Lean and Industrialisation
  - Efficiency
  - Resilience
  - ...
- Data/Information
  - BIM
  - Internet of Things
  - Social Media
  - ...
- Collaborative Working
  - Early Involvement
  - Relationships
  - Incentivisation
  - Partnering
  - Frameworks
  - Alliancing
  - ...
- Respect for People
  - Health & Safety
  - Diversity
  - Education
  - Skills
  - ...
- ...

# Achieving Vision 2025

- Respect for People
  - Collaborative Working
    - BIM
      - Lean and Industrialisation
        - Value in Use
          - Sustainability

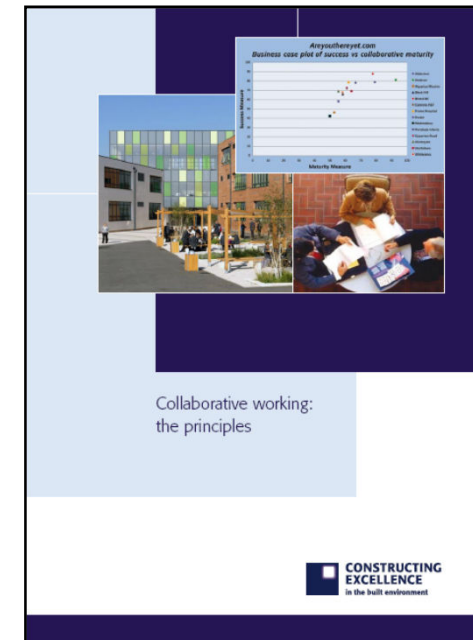


**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

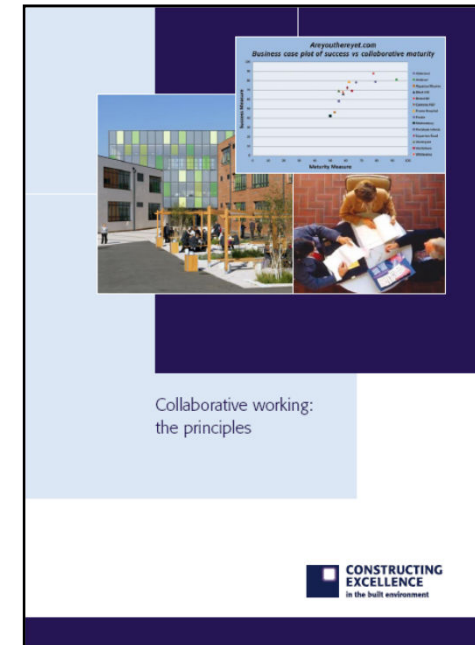
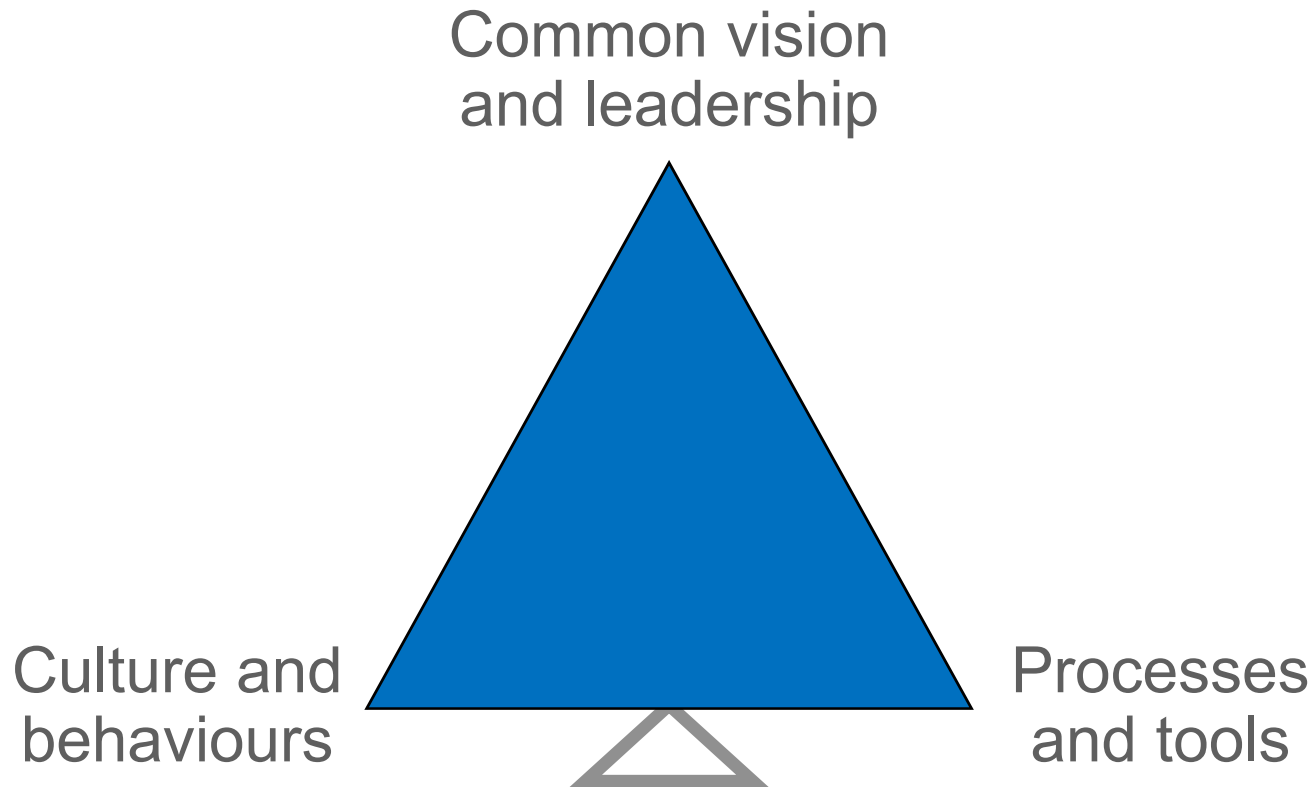
**GREENWOOD**  
CONSULTANTS

# Collaborative Working *The Principles*



**GREENWOOD**  
CONSULTANTS

# Three Overriding Principles



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



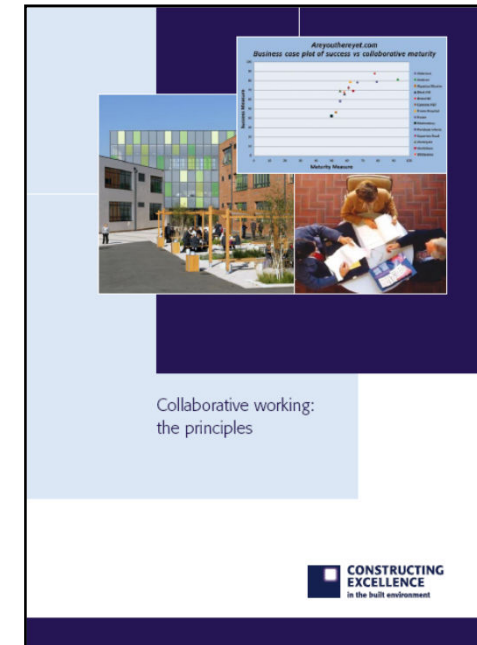
**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Six Critical Success Factors

- ➔ Early involvement
- ➔ Selection by value
  - ➔ Aligned commercial arrangements
  - ➔ Common processes and tools
    - ➔ Performance measurement
    - ➔ Long-term relationships



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



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Constructing Excellence Through Collaborative Working

## Definition

"Working together in a seamless team to common objectives that deliver benefit for all through mutually-beneficial (i.e. including commercial) alignment"

## Three overriding principles

### Common vision and leadership

An absolute focus on the end purpose based on a clear understanding by all participants of what represents value for the client and end users. Leadership needs to establish this common vision and then constantly relate progress by the project to this vision to reinforce the team's goal.

### Collaborative culture and behaviours

Collaborative behaviours include teamwork and joint problem solving. Participants demonstrate values such as trust, fairness, openness, no-blame, honesty and transparency.

### Collaborative processes and tools

Adopting processes and tools which support the development of the collaborative culture and deliver the benefits, such as information collaboration platforms, open book costing, lean and waste elimination, and project bank accounts.

## Six critical success factors

### Early involvement

From the start, engage with all those who have a value contribution to make, including specialist contractors, manufacturers, commissioning consultants, facilities managers, etc, and pay for their expert input. Ensure no party has to implement decisions which they have had no part in discussing and developing.

### Selection by value

Select on quality, especially of the potential relationships, whole life costs and benefits. Avoid historic ("traditional") procurement routes such as design-bid-build with lowest price tendering focused on upfront capital reduction. Appoint the best not "cheapest" and focus on out-turn cost and whole life legacy value.

### Aligned commercial arrangements

Adopt commercial arrangements that underpin all the above principles: collaborative forms of contract (NEC, PPC, JCT/CE), risk management and risk sharing, incentivisation such as open book cost management, target cost with pain-gain share, fair/prompt payment mechanisms (eg single project bank accounts), project insurances. Avoid historic risk-dumping forms of contract, exploiting suppliers on price, or late payment.

### Common processes and tools

Avoid duplication of roles and effort through eg co-location, extranets, Building Information Models and management. Implement value management and other lean techniques to eliminate all waste. Pay on milestones not monthly valuations, which are a wasteful process.

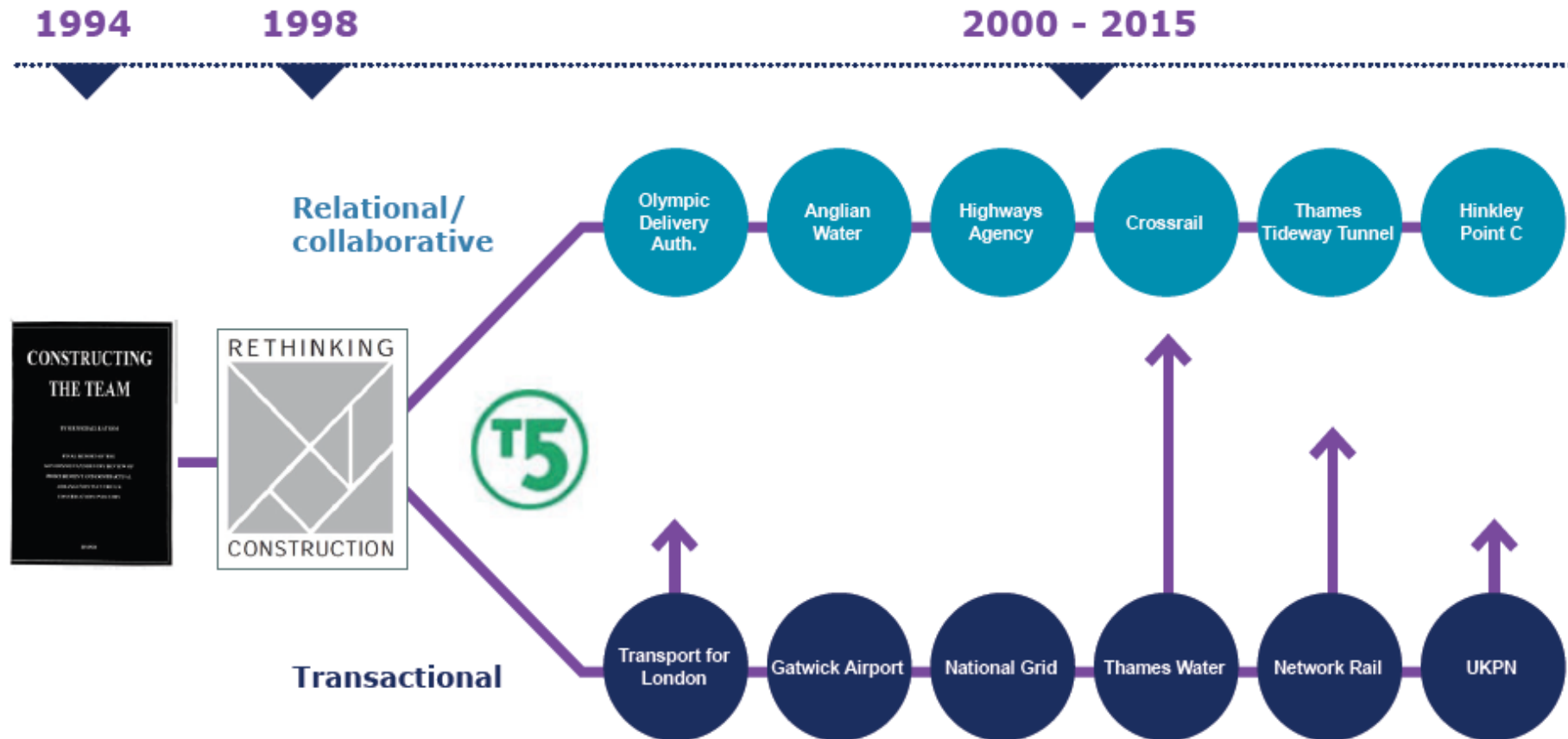
### Performance measurement

Adopt client-focused Key Performance Indicators. Measure and review throughout the project to indicate progress towards success, and use as the yardstick for continuous improvement activity. Include measures and reviews of behaviours as well as hard processes.

### Long-term relationships

Look for the benefits of teams who have learned to work together efficiently by using standing supply chains, frameworks and similar tools rather than tendering every package every time. Minimise waste by working with people who have developed a culture of trust and inclusivity while understanding the need to continually question, challenge and improve.

# Major Infra Procurers Move to Collaborative/Relational Models



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



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

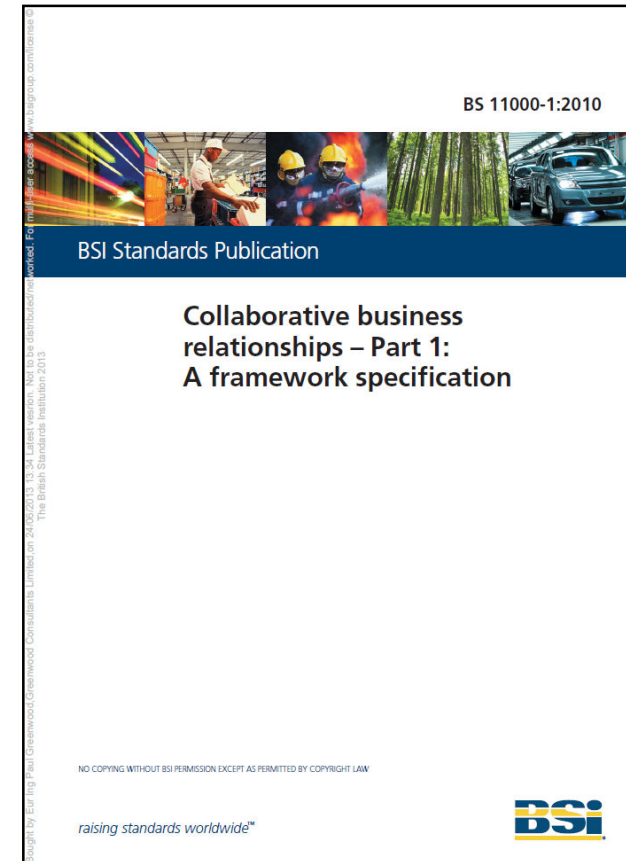
@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Background to BS 11000

# What is BS 11000?

- “... a strategic framework to establish and improve collaborative relationships in organisations of all sizes.”
- From concept to disengagement
- Developed by DTI/CBI Partnership Sourcing Ltd
- First national standard of its type



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# What is BS 11000?

- Part 1
  - Framework Specification
    - What = 'shall'
- Part 2
  - Guide to Part 1
    - Why
    - How



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

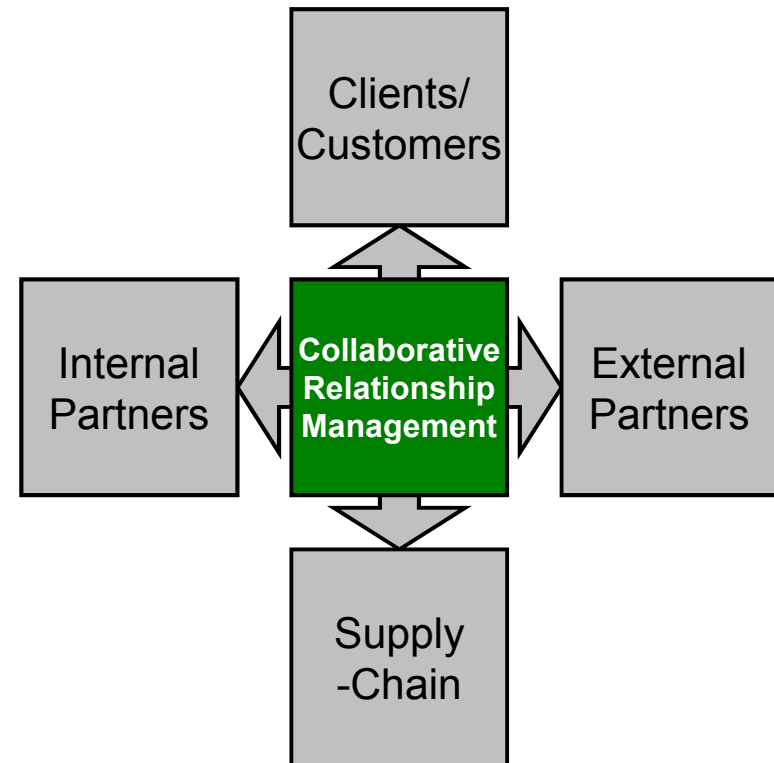
**GREENWOOD**  
CONSULTANTS

# Applicable Relationships

- Single programme or project
- Individual relationship
- Multiple relationships
- Particular types of relationships
- ...

*“... where collaboration can open new strategic opportunities”*

*“... potential for improvement through the adoption of a collaborative relationship”*



Based on 'Multi-Dimensional Relationships' (aka North-South Diagram),  
BS 11000-1:2010 Collaborative Business Relationships - Part 1.

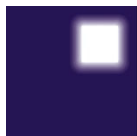
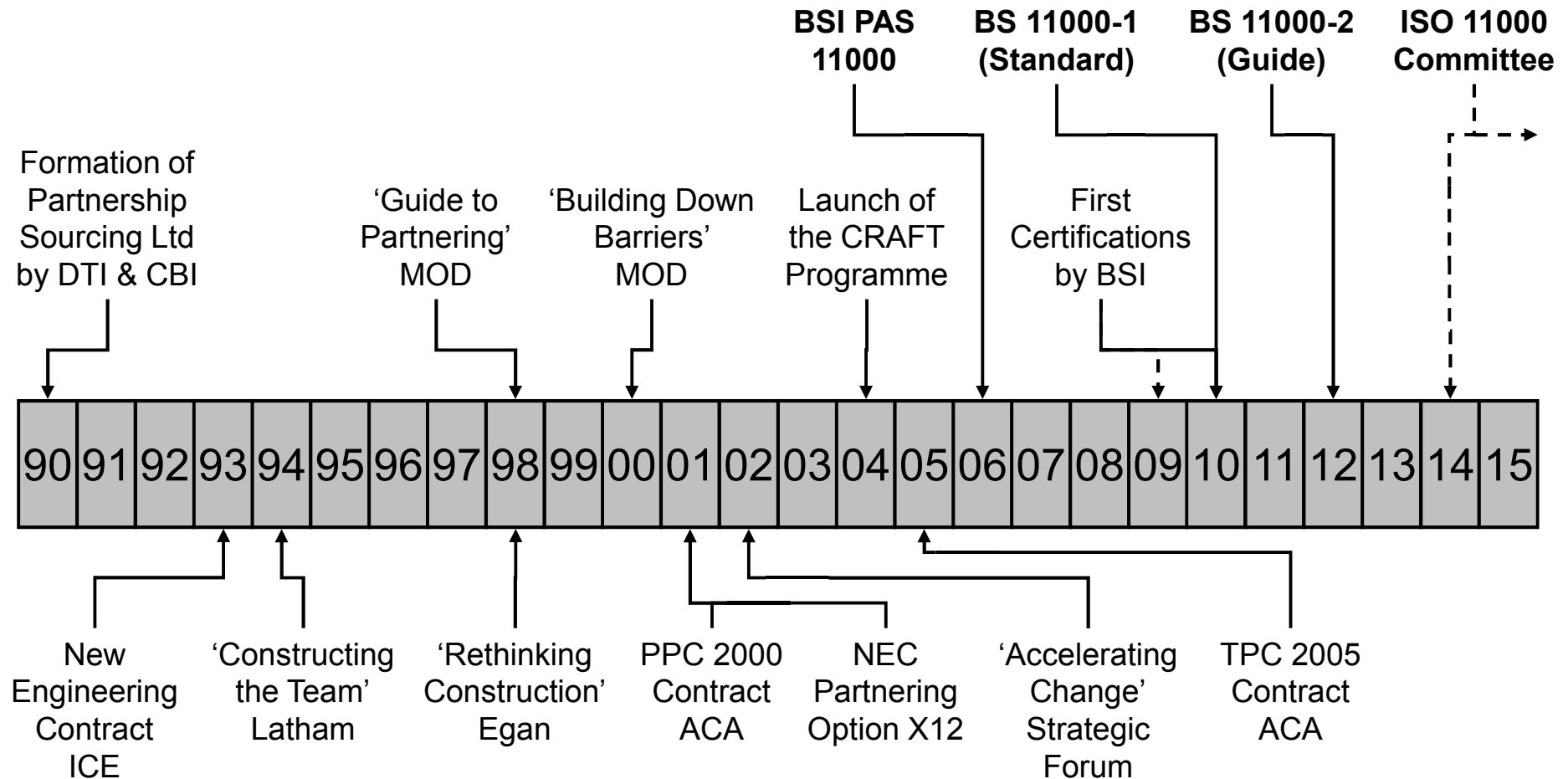


**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Timeline



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Early Adopters

- PAS 11000
  - Aerospace
- BS 11000
  - Defence
  - Rail
  - Facilities
  - ...
- EMCOR, Lockheed Martin, Raytheon Systems, NATS
- MOD, Boeing, Fujitsu, HP
- Network Rail, Babcock Rail, Balfour Beatty, Colas, Costain, Hochtief, Rail Tech
- Babcock, Capita, Mouchel
- ...



**CONSTRUCTING  
EXCELLENCE**

Kent Club

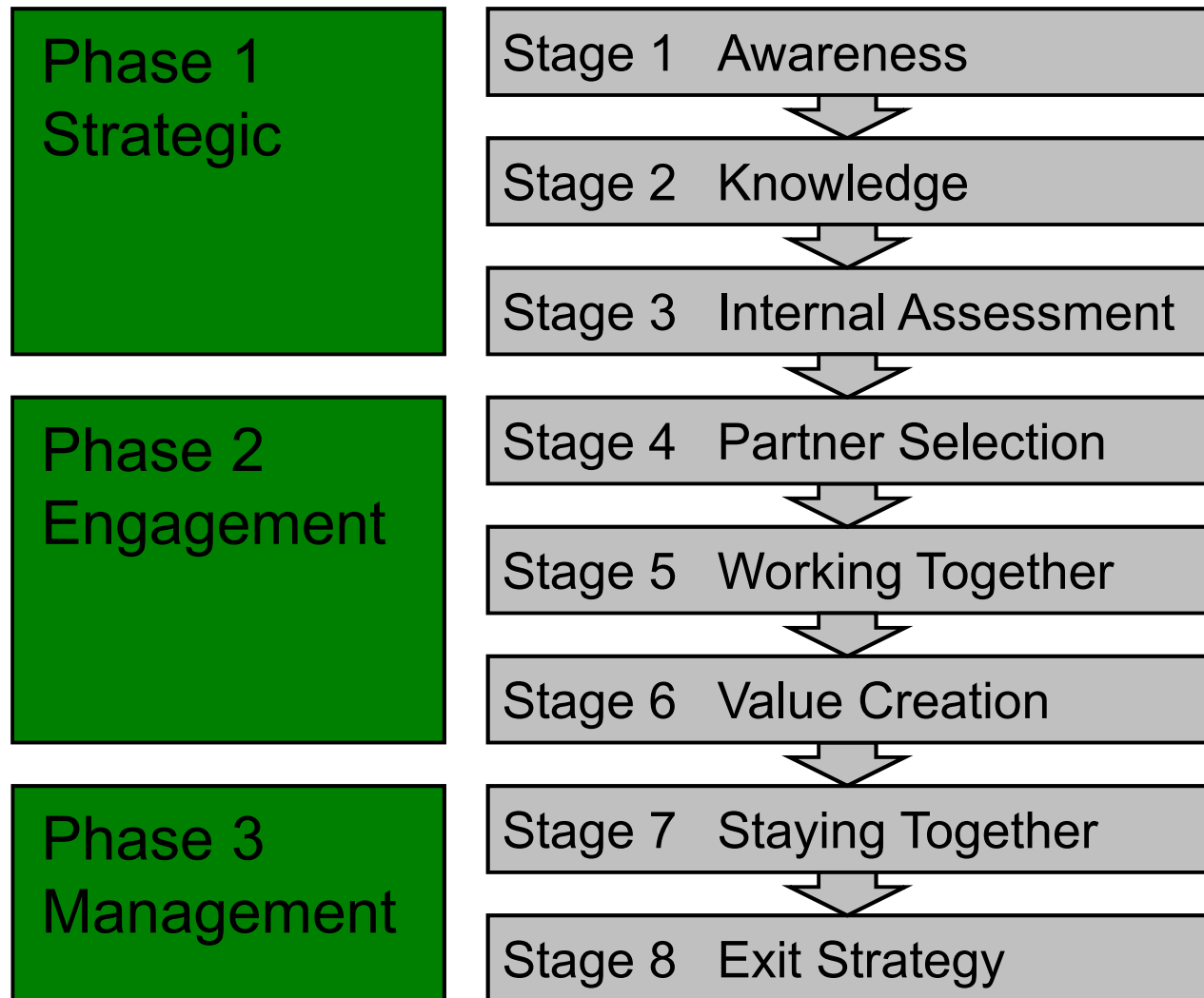
@CEKent\_Branch

#CEKentBIM

@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# The BS 11000 Model



# Phase 1 Strategic

*Development of strategic commitment to collaborative working, based upon a thorough understanding of the opportunities, benefits, risks and constraints of this approach*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**

Kent Club

# Phase 2 Engagement

*Selection of committed partners and the establishment of joint objectives, structures, processes and systems for creating new value*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**

Kent Club

# Phase 3 Management

*Management of the joint value-creating relationship and systematic disengagement*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

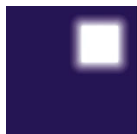
Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

# Stage 1 Awareness

*Development of awareness and the overall strategic approach to collaborative working*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

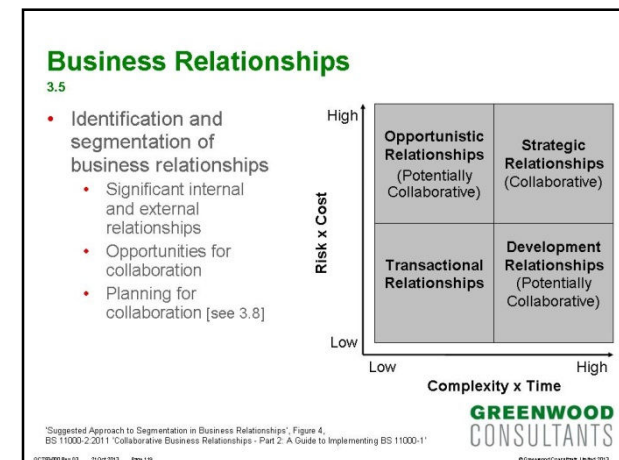
Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

# Stage 1 Awareness

- Senior executive
- Policy
- Objectives
- Value
- Identification and segmentation of business relationships
- Resources, competencies and behaviours
- Initial risk assessment
- Implementation plan
- Documentation
- Initiating the relationship management plan



**GREENWOOD**  
CONSULTANTS

# Stage 2 Knowledge

*Establishment of a body of knowledge and the development of a specific strategy, business case and implementation plan for each identified opportunity*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

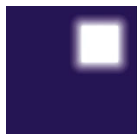
Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

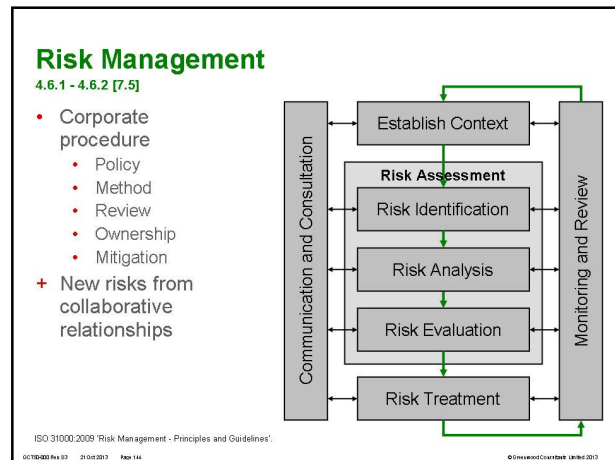
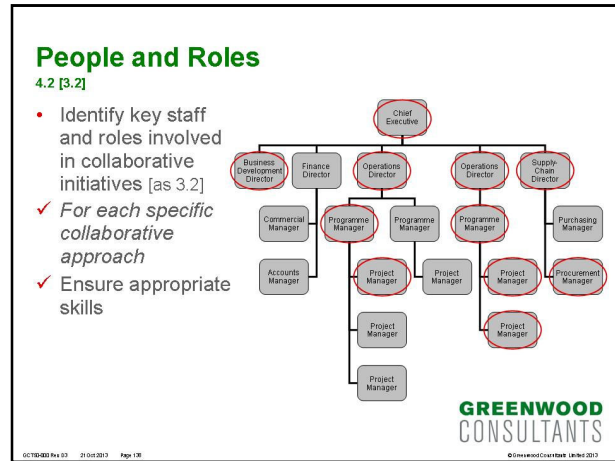
Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

# Stage 2 Knowledge

- Developing a specific business strategy [drivers and objectives]
- Competence and training
- Knowledge capture, creation and management
- Knowledge sharing
- Strategy and business case development
- Risk management process
- Implementation plan
- Relationship management plan



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

# Stage 3 Internal Assessment

*Undertaking a structured assessment of the capability and maturity to successfully engage in a collaborative initiative*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**

Kent Club

# Stage 3 Internal Assessment

- Self assessment
- Collaborative leadership
- Partner selection criteria
- The challenge of alignment
- Consolidating the next steps through internal action plan
- SER review
- Relationship management plan

## Collaborative Maturity

5.1.3

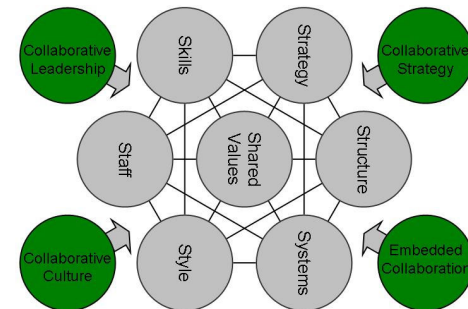
Attributes	Ability	Attitude
<b>A</b> Operational processes are well defined and incorporate collaborative approaches	High level of experience of effective collaboration at all levels	Clear corporate commitment and leadership that cascades throughout operations
<b>B</b> Limited application of shared processes and performance indicators	Individuals at various levels have demonstrable skills in collaboration	Successful individual collaborative programmes in effect
<b>C</b> Robust internal process and performance indicators	An appreciation of collaborative approaches, but a lack of skills	Appreciation, at an operational level, of the value of effective relationships
<b>D</b> Operates with a traditional contract and procedural based approach	No appreciation of the value of collaborative relationships	Operates a robust and effective arms length contracting approach, only

Table 5: Maturity Assessment Profile, BS 11000-2:2011 'Collaborative Business Relationships - Part 2: Guide to Implementing BS 11000-1'.  
© GreenWood Consultants Limited 2013

## What Does a Collaborative Partner Look Like?

5.3 [6.2.1]

View a potential partner from a different angle



McKinsey 7S Model, 'In Search of Excellence', Tom Peters and Robert Waterman, 1982

© GreenWood Consultants Limited 2013



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Stage 4 Partner Selection

*Undertaking a structured approach to the identification, evaluation and selection of appropriate partners*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

Stage 8 Exit Strategy

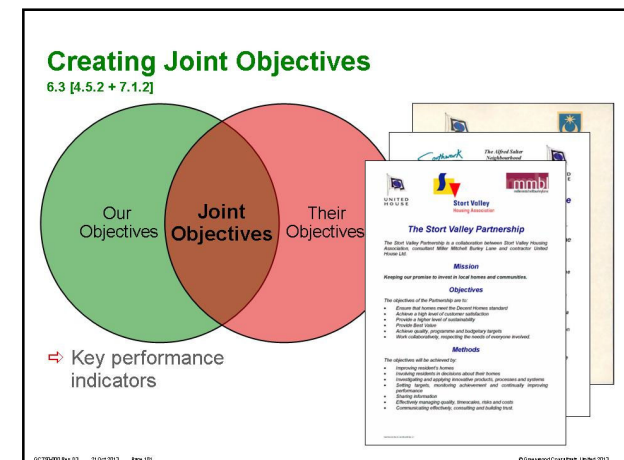
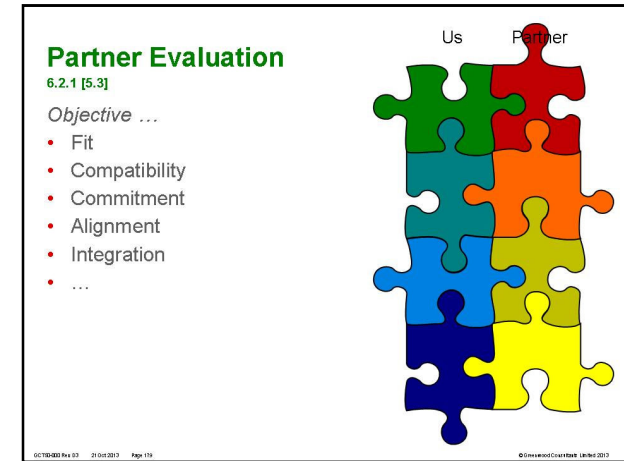


**CONSTRUCTING  
EXCELLENCE**

Kent Club

# Stage 4 Partner Selection

- Nominate potential collaborative partners
- Partner evaluation and selection action plans
- Creating joint objectives
- Negotiating for collaboration
- Partner selection
- Relationship management plan



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Stage 5 Working Together

*Establishing the right platform for collaborative working*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**

Kent Club

# Stage 5 Working Together

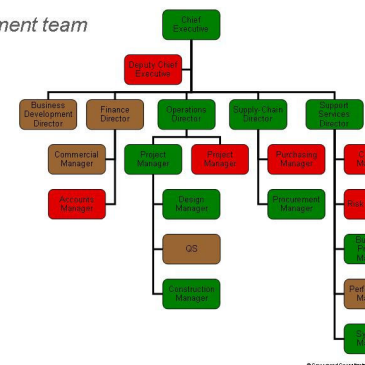
- Governance
- Organizational structure
- Joint knowledge management
- Communications management
- Joint risk management
- Business process management
- Contracting arrangements
- Performance measurement
- Improvement
- Relationship management plan

## Organizational Structure

7.2

*The joint management team*

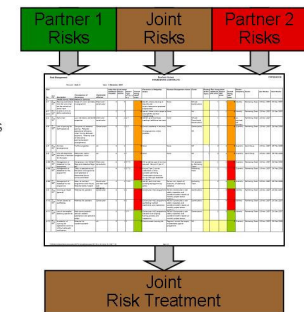
- Roles
- Responsibilities
- Authorities
- Reporting
- Contract compatible



## Joint Risk Management

7.5 [4.6]

- Joint process
- Risk Manager
- Risk Register
  - Individual partner risks
  - New interdependency risks
- Risk Ownership
  - Partner best able to manage the risk
- Opportunity management



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Stage 6 Value Creation

*Establishing approaches that seek to build additional value out of the joint relationship*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

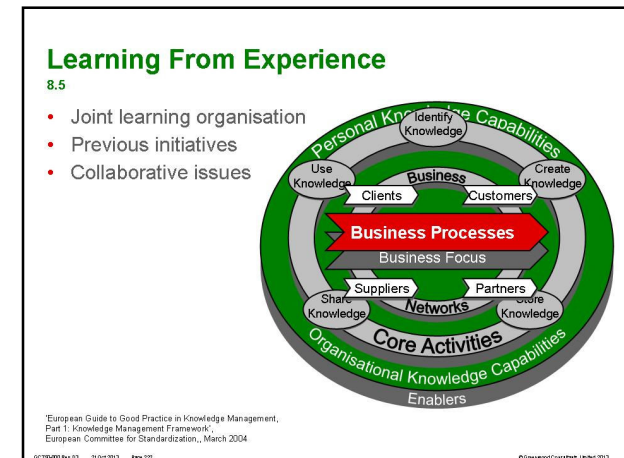
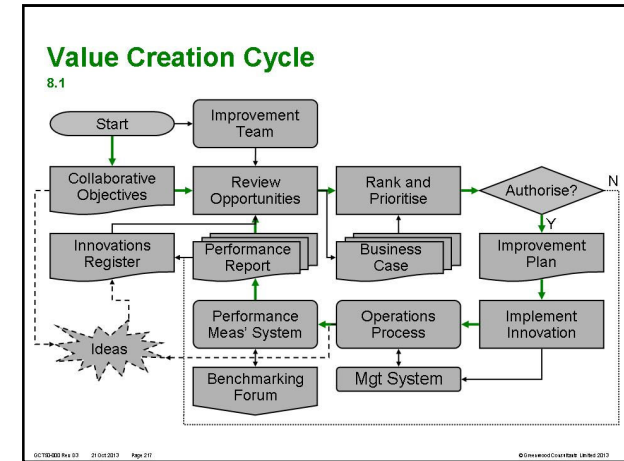
Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

# Stage 6 [Additional] Value Creation

- Establishing a value creation programme
- Improvement team
- Improvement target setting
- Value drivers
- Learning from experience
- Initiating the innovation process
- Relationship management plan



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Stage 7 Staying Together

*Ongoing joint management of collaborative initiatives*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

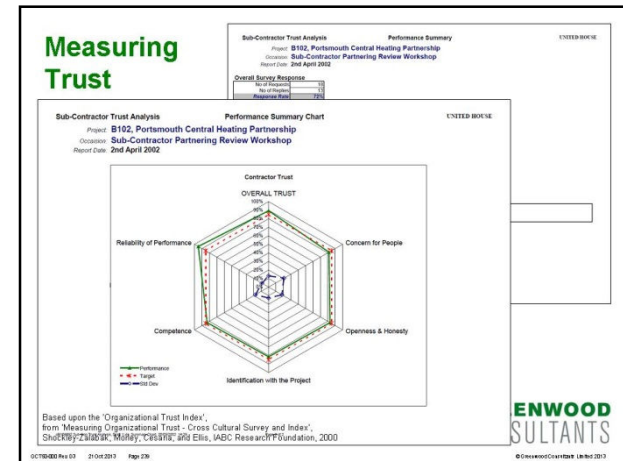
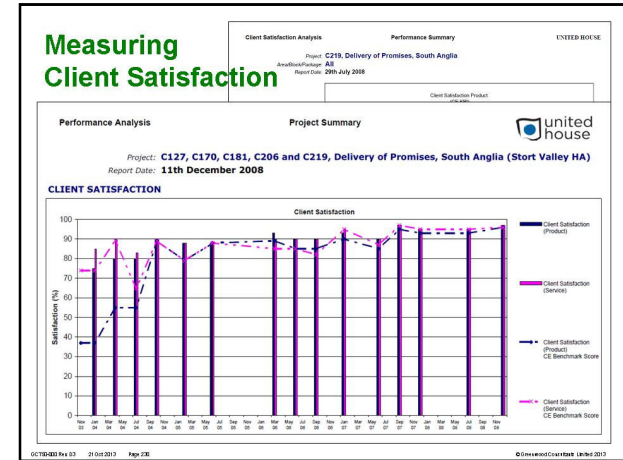
Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

## Stage 7 Staying Together

- Monitoring and measuring the relationship
- Ongoing management
- Continual innovation
- Maintaining behaviours and trust
- Delivering performance
- Analysis of results
- Issue resolution
- Joint exit strategy
- Relationship management plan



@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# Stage 8 Exit Strategy

*Developing and maintaining an effective strategy for disengagement*

Phase 1  
Strategic

Phase 2  
Engagement

Phase 3  
Management

Stage 1 Awareness

Stage 2 Knowledge

Stage 3 Internal Assessment

Stage 4 Partner Selection

Stage 5 Working Together

Stage 6 Value Creation

Stage 7 Staying Together

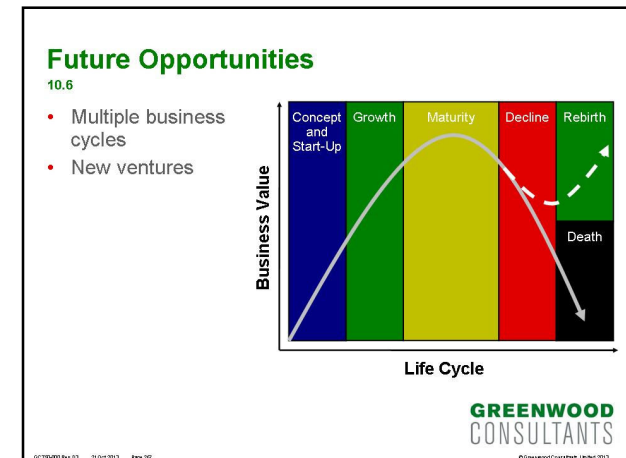
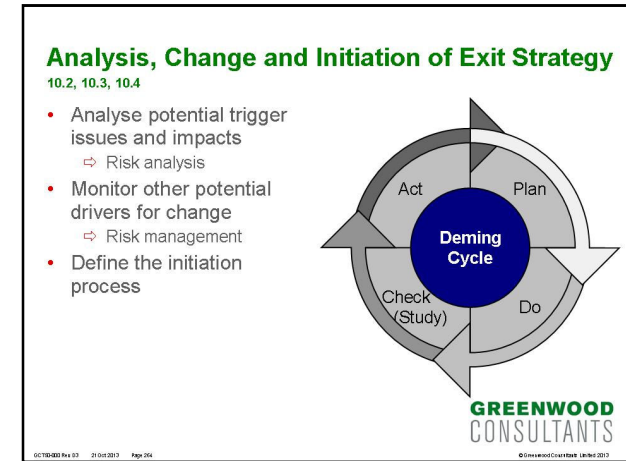
Stage 8 Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

# Stage 8 Exit Strategy

- Establishing and maintaining a joint exit strategy
- Analysis of exit strategy
- Evaluating changes
- Initiating the process
- Business continuity and transition
- Future opportunities
- Relationship management plan



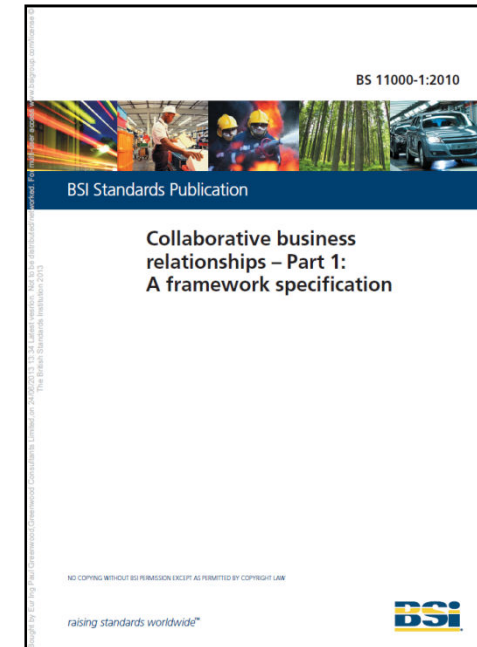
**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD  
CONSULTANTS**

# BS 11000 Themes

- Leadership
- Objectives
- Competence and Behaviour
- Value Management
- Risk Management
- Knowledge Management
- Governance
- Exit Strategy



**CONSTRUCTING  
EXCELLENCE**  
Kent Club

@CEKent\_Branch  
#CEKentBIM  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS

# BS 11000 Benefits

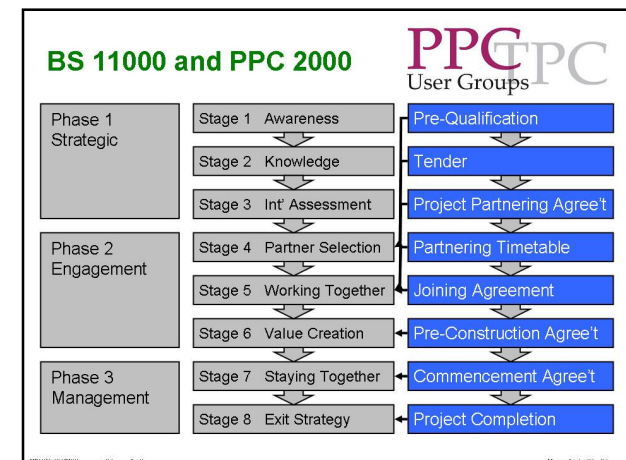
- Neutral consistent framework
  - Collaborative language
  - Change programme
  - Management system
  - ⇒ Basis for gap analysis
- Identifies key value creation issues
  - Leadership, competence and behaviour
  - Value, risk and knowledge management
- Meshes different business cultures, structures and systems
  - Public - private - third sectors
  - Large - medium - small businesses
- Provides mechanism for value creation



- ➔ Reduces risk
- ➔ Reduces time to implement
- ➔ Improves probability of success
- ➔ Improves overall value

# Summary

- [real] Collaboration does not happen by chance
  - Structured strategic change
  - Requires leadership and vision ...
- Established construction-specific models
  - Toolkits
  - Contracts
- BS 11000
  - Universal language and application
  - Change programme
  - Management system
  - Compatible with selected construction contracts



***... its about competence and behaviour***

**GREENWOOD**  
CONSULTANTS

## Q&A

PGreenwood@GreenwoodConsultants.com  
GreenwoodConsultants.com  
@GreenwoodCLtd

**GREENWOOD**  
CONSULTANTS