

Workshop Proceedings:

Collaborative Working and Procurement in Construction

Wednesday 19 March 2014

Workshop on Collaborative Working and Procurement in Construction

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PROGRAMME

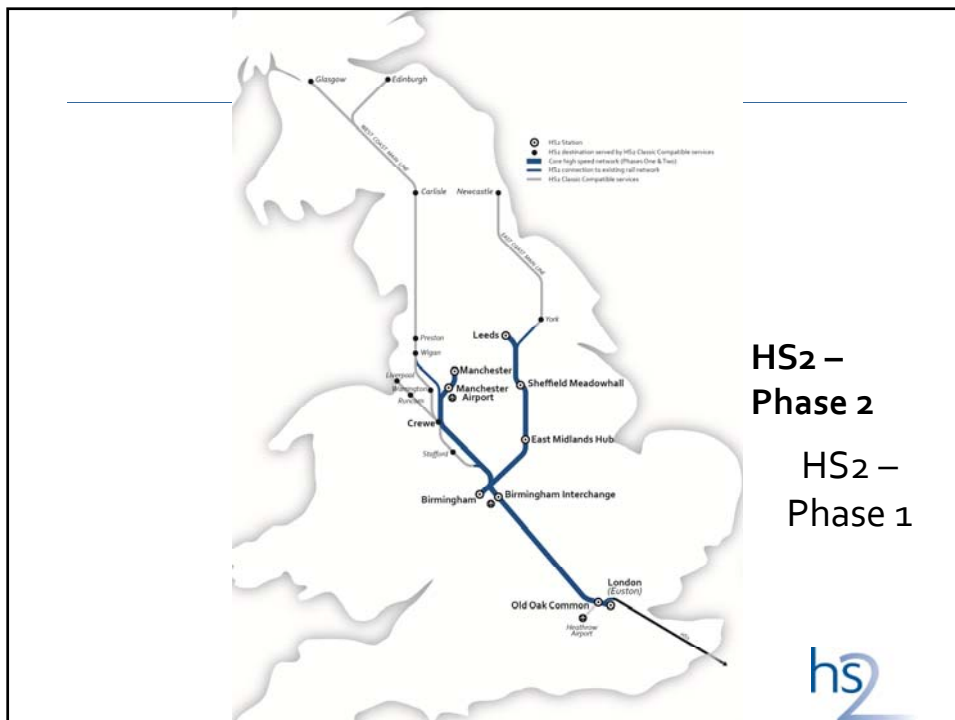
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|-------|---|
| 12.00 | Registration and Networking Lunch |
| 12.45 | Chair's Welcome and Introduction Ben Kidd, CIRIA |
| 13.00 | ECI Introduction Clive Winkler, ECI |
| 13.10 | Keynote Presentation – Collaborative working & procurement in construction - Bill Grose, Design and BIM Strategy, HS2 Technical Directorate |
| 13.40 | Introduction to BS11000 Clive Winkler, ECI |
| 13.50 | Getting Business Benefit from BS11000 – Collaborative Working Relationships - David Sanders, Business Improvement Manager, Costain |
| 14.20 | Q & A session |
| 14.40 | Refreshment and Networking break |
| 15.00 | Hitchin Grade Separation - Nick Hilton, Senior Project Manager, Network Rail - Julian Spiller, Project Director, Hochtief |
| 15.50 | Q & A session |
| 16.40 | Chair's summary |
| 17.00 | Networking reception |



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Collaborative working &
procurement in construction

Bill Grose, Design and BIM Strategy Advisor, HS2 Ltd



Phase One – Supply Chain Opportunity

- Duration and Budget:
 - 9.5 years
 - £17.16bn (HS2 Ltd target cost)
 - Average spend £2bn per year
- Infrastructure
 - 230km new high speed line
 - >50% route in cuttings or tunnels (29% + 21%)
 - Approximately 400 bridges and viaducts
 - Four stations + 2 depots
 - Associated railway systems
 - Rolling Stock and Depot
 - Links to HS1 and West Coast Main Line



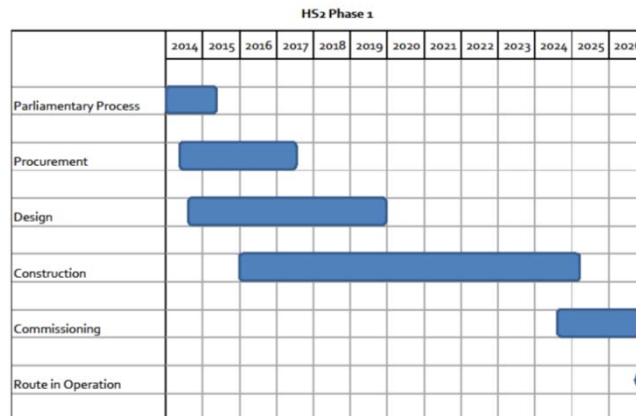
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The HS2 challenges...

- Focus on cost effectiveness
- Government imperative to improve procurement and delivery of infrastructure
- Collaboration
 - ECI (Early Contractor Involvement)
 - BIM (Building Information Modelling)
 - NEC (New Engineering Contract)
- Off-site manufacture
- Strategic themes
- Skills & employment

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Programme for delivery



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Innovation, research and benchmarking

- Integrating upcoming products/materials etc into HS2 to make more efficient and cheaper
- Future-proofing HS2
- Leveraging current and future investments of others to HS2 benefit
- What to do *and what not to do* to ensure max appropriate use of innovation

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HM Treasury Infrastructure Cost Review (2010): Main Report Finding

- *“over-specification and the tendency, more prevalent in some sectors than others, to apply unnecessary standards, and use bespoke solutions when off-the-shelf designs would suffice”*
- Now over 27,000 British Standards plus Eurocodes which are gradually superseding or replacing British Standards

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HS2 approach

- Look for current inefficiencies and rectify
- Remove blockers and constraints, eg:
 - Simplification of Standards (eg NR; LUL; RSSB)
 - BSI – Temporary Works; Tunnel Linings PAS;
 - HS2 Design Manual – common *interpretation* of standards
 - CIRIA C580 – Embedded Retaining Walls
- Get support from wider communities, eg:
 - Research
 - International benchmarking
 - Learning from other industries

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HS2 and BIM

The challenges and opportunities faced by HS2
in terms of the HS2 BIM Vision



HS2 aspirations

- For BIM to be our methodology for electronic storage *and* usage of data
- For BIM to help deliver collaboration; off-site; NEC; ECI
- For HS2 to achieve BIM Level 2 by 2016
- To buy (and make best use of) data

challenges

- Supply chain skills need significant improvement
- How to future-proof our IT system
- Deciding which contractual arrangements will maximise the likelihood of success



opportunities

- standard assets
- Risk reduction in construction
- Asset information system



Examples of the use of BIM

- Designing: using the same digital data for analysis as for design or visualisation
- Reporting: efficient collation of information; consistent reporting
- Planning: cost estimating; building on the computer before on site
- Managing: progress reporting; dashboards



Behavioural changes you will see in HS2

- Understanding how to procure data – specification, transfer, quality assurance
- Familiarity with how to manage electronic data held centrally,
- Focus on data accuracy
- Consistent storage of data
- Understanding how to access data to do one's job



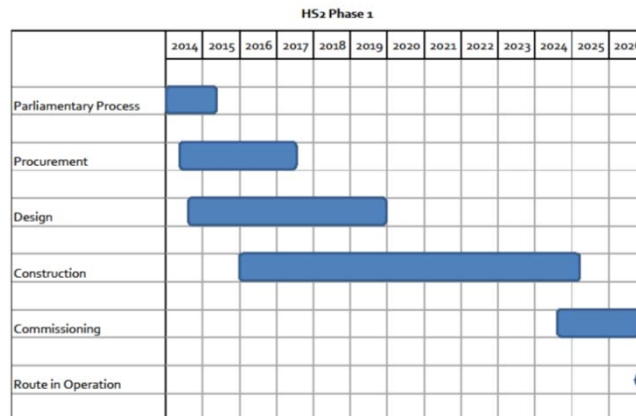
Behavioural changes in the supply chain

- Working more collaboratively with each other and us
- Right first time with data transfers
- Better understanding of risk management by proper use of data



HS2 and the Balanced Scorecard

Programme for delivery



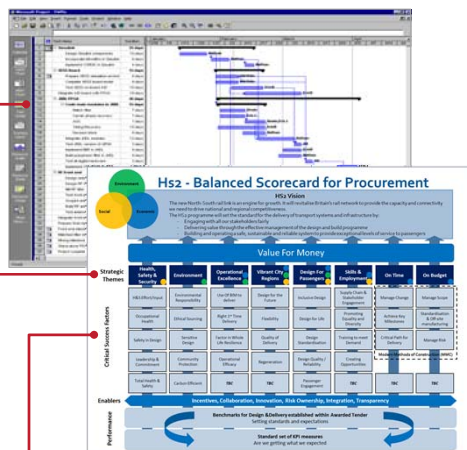
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Delivering Value for Money

- Detailed Procurement Plans
- Utilities Regulations
- Strategic Themes
- Balanced Scorecard

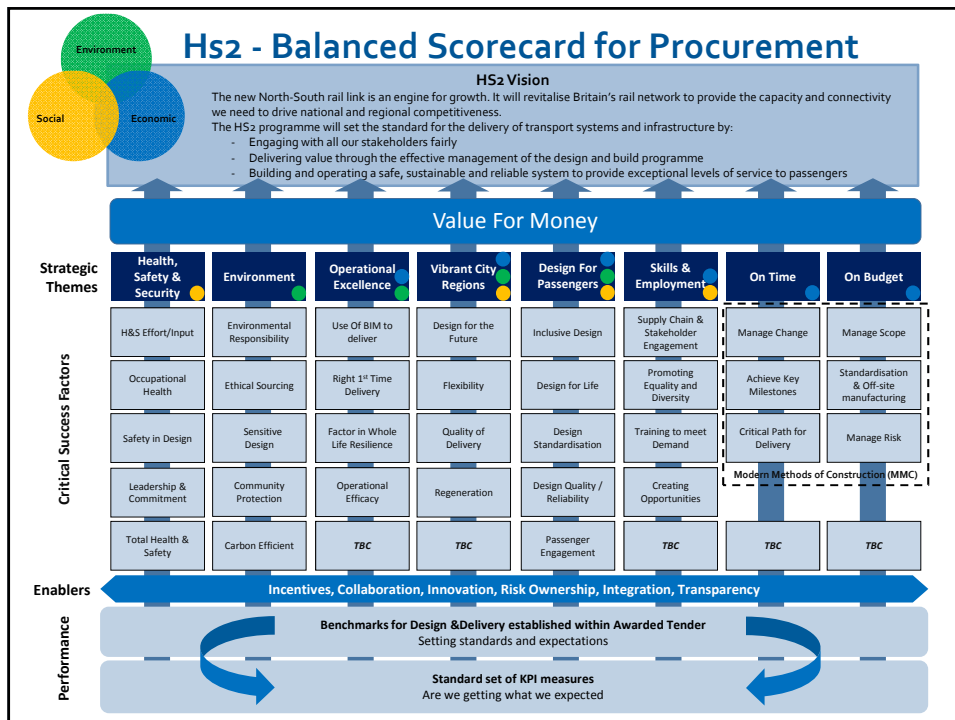
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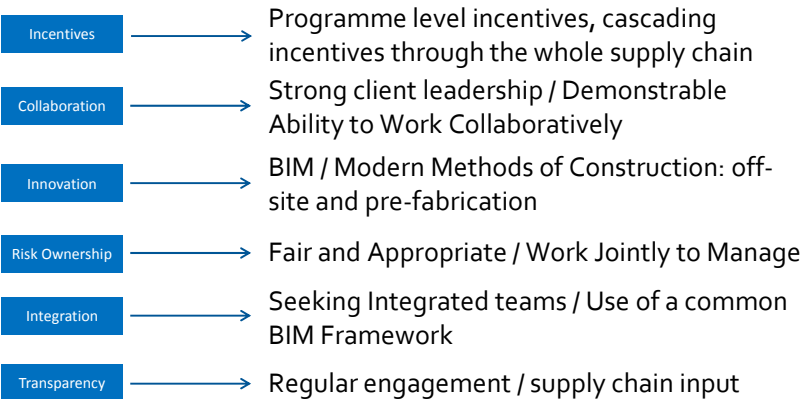


HS2 - Balanced Scorecard for Procurement

Creating Opportunities

- Regional Economic Stimulation
- Training / Apprentices
- Local Employment
- Engage Local Businesses
- Opportunities for SME's
- Community Enrichment

Enablers



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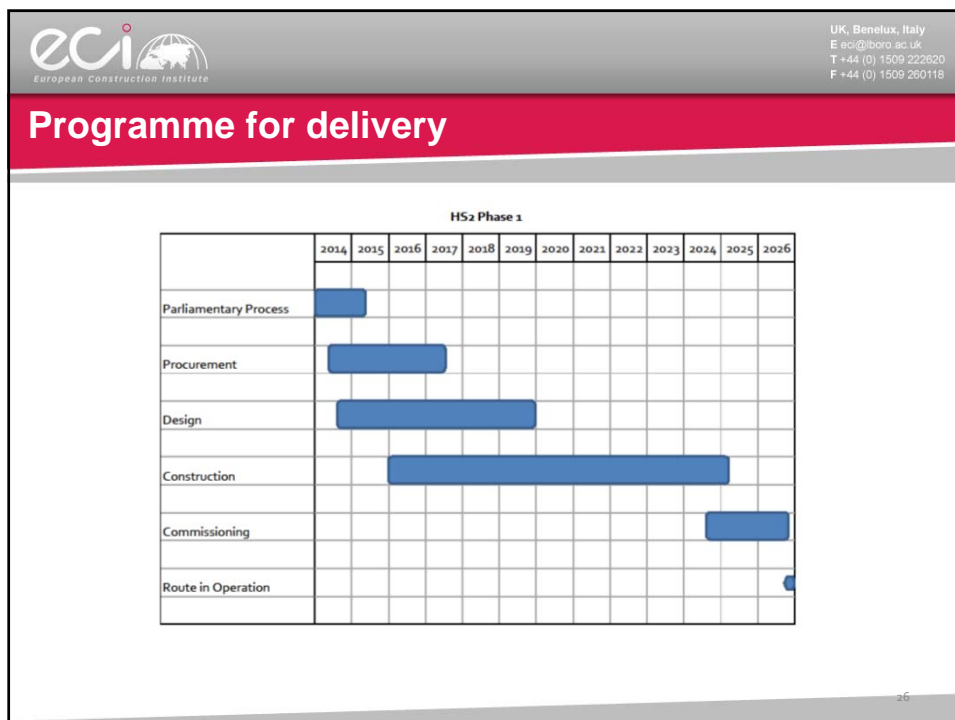
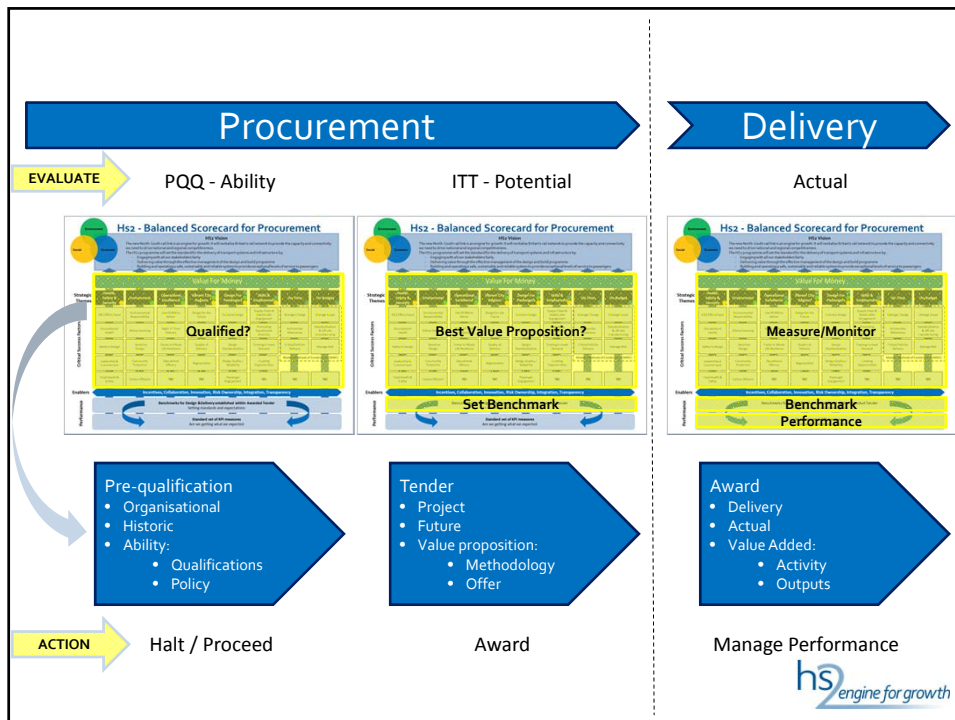
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Efficiencies


- Reduce waste in the indirect costs - redesign, rework, man marking
- Learn from others - successful methods, materials and manufacturing as used in other industries and countries
- Always consider whole life costs and benefits

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Thank you for your attention.



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BS11000 and its benefits

David Sanders, Business Improvement Manager, Costain.

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Costain - Solution Provider

COSTAIN

Infrastructure

£1Bn

Natural Resources





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What is BS11000?

An eight-stage procedural framework introduced in 2010 by BSi for establishing and improving collaborative relationships in organisations of any size.



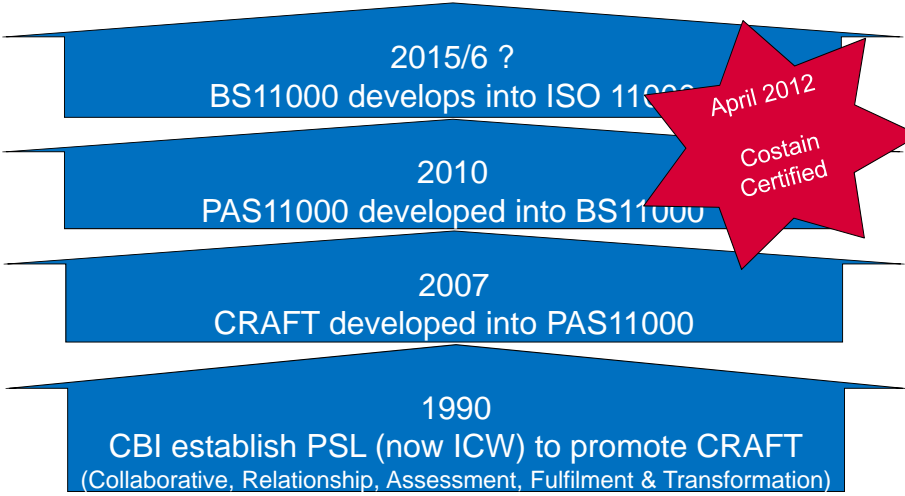
Relationships
between organisations,
not just individuals



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A short history of BS11000




2015/6 ?
BS11000 develops into ISO 11000

2010
PAS11000 developed into BS11000

2007
CRAFT developed into PAS11000

1990
CBI establish PSL (now ICW) to promote CRAFT
(Collaborative, Relationship, Assessment, Fulfilment & Transformation)



April 2012
Costain
Certified




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“Collaboration? Yes, we do that”




(well not to the degree BS11000 requires)




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Lots we don't routinely do

Assessing risks of collaboration

Agreeing collaborative structure and roles

Assessing cultural & business fit

Monitoring relationship health and trust


Assessing peoples collaborative skill sets

Agreeing what can and can't be shared


Developing exit plans

Documenting the relationship (RMP)

Measuring benefits of collaboration



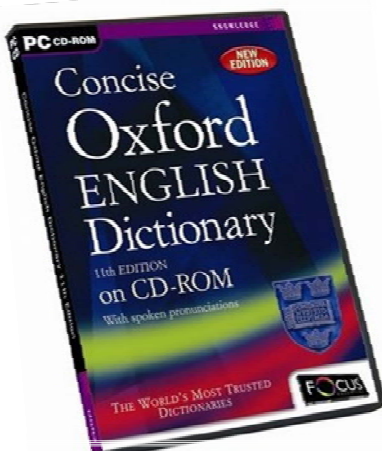
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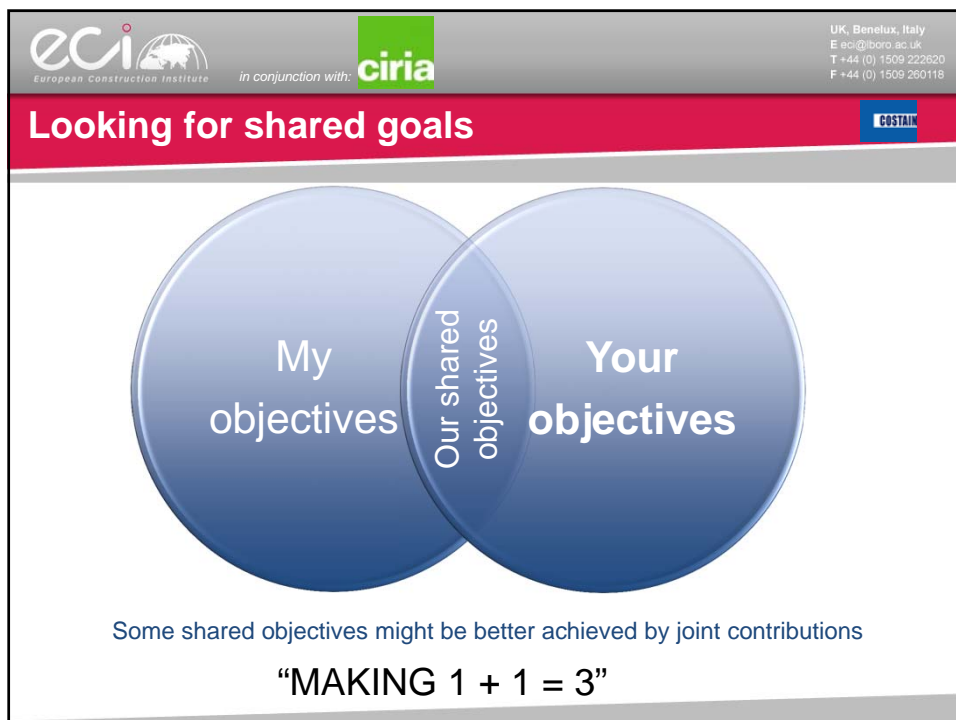
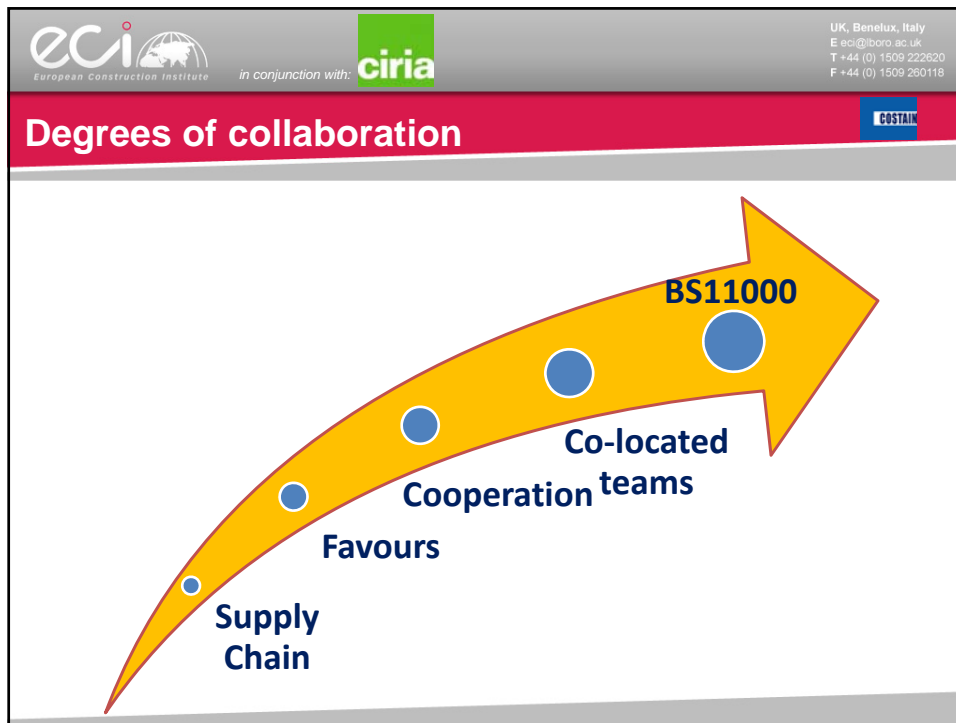


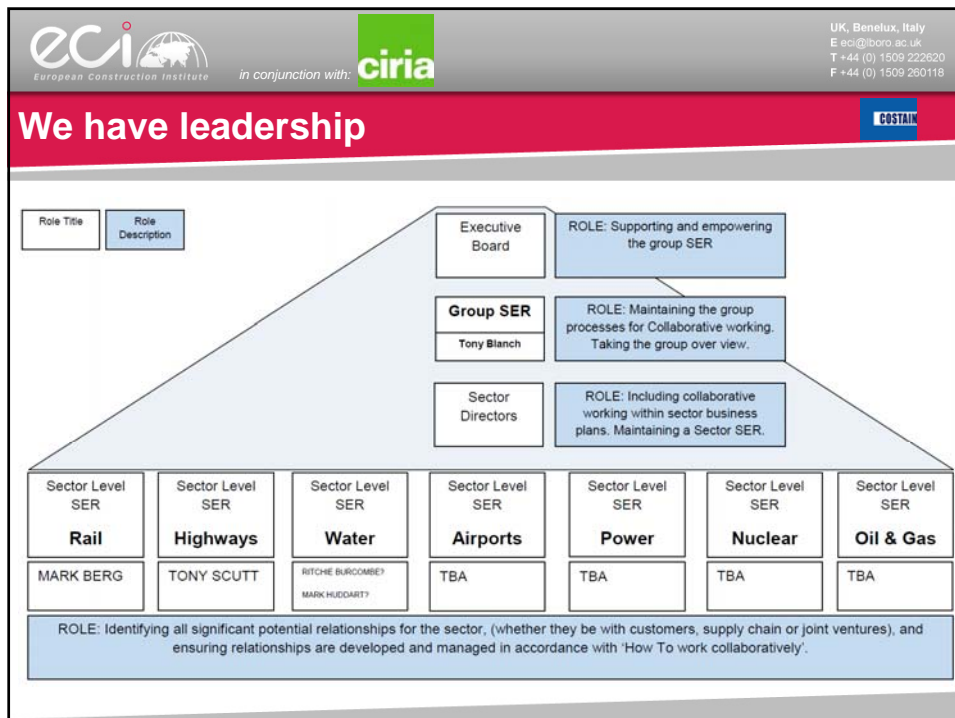
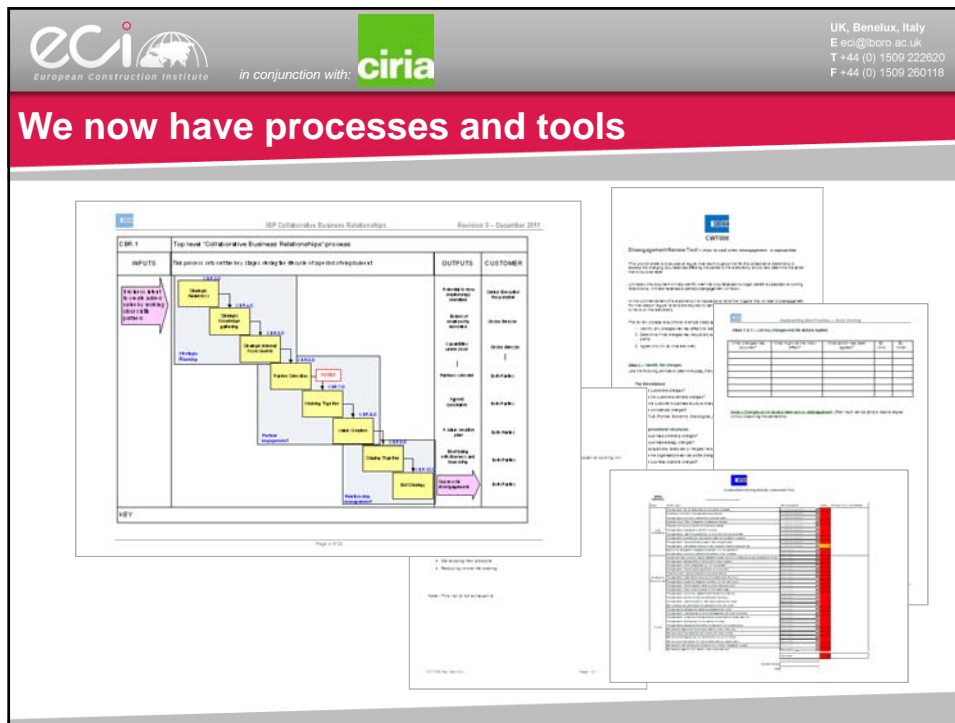
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A 'new' definition

BS 11000 redefines what is meant by 'collaboration'.







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Who to collaborate with? **COSTAIN**




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A helpful definition **COSTAIN**

“In collaboration, folks come together, give something up, and get something back that’s even better. They achieve something together that none can achieve alone, and are better off for it”


(Bratton & Tumin - *Collaborate or Perish!*)




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What could you “give up” (invest)


- Sharing your information
(data)
- Sharing your processes
(methods)
- Sharing your skills and experience
(knowledge)
- Sharing your resource
(people)



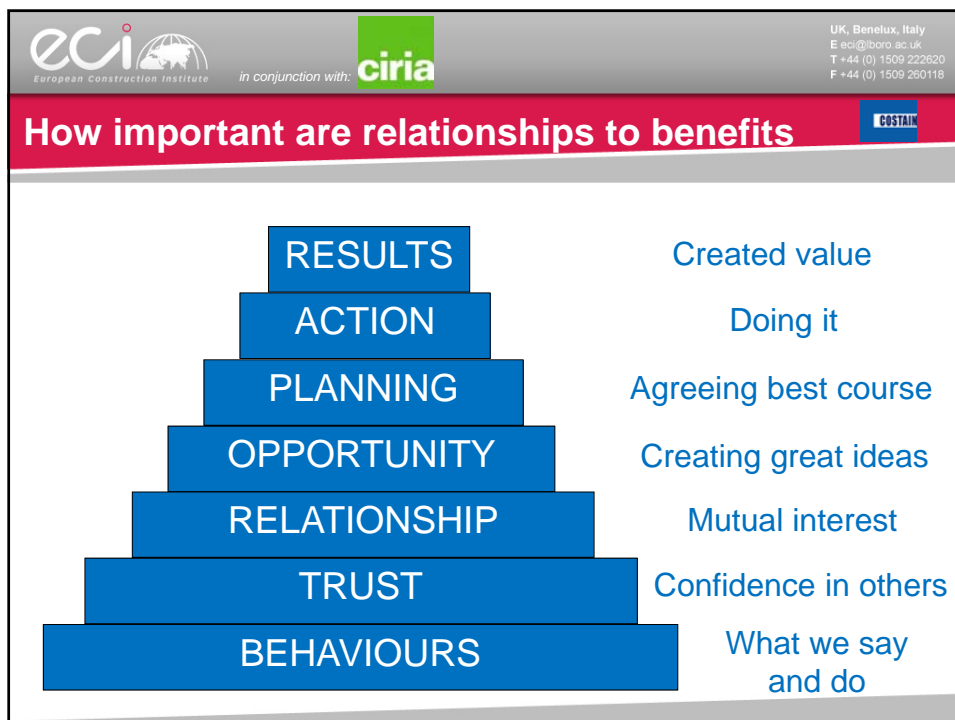
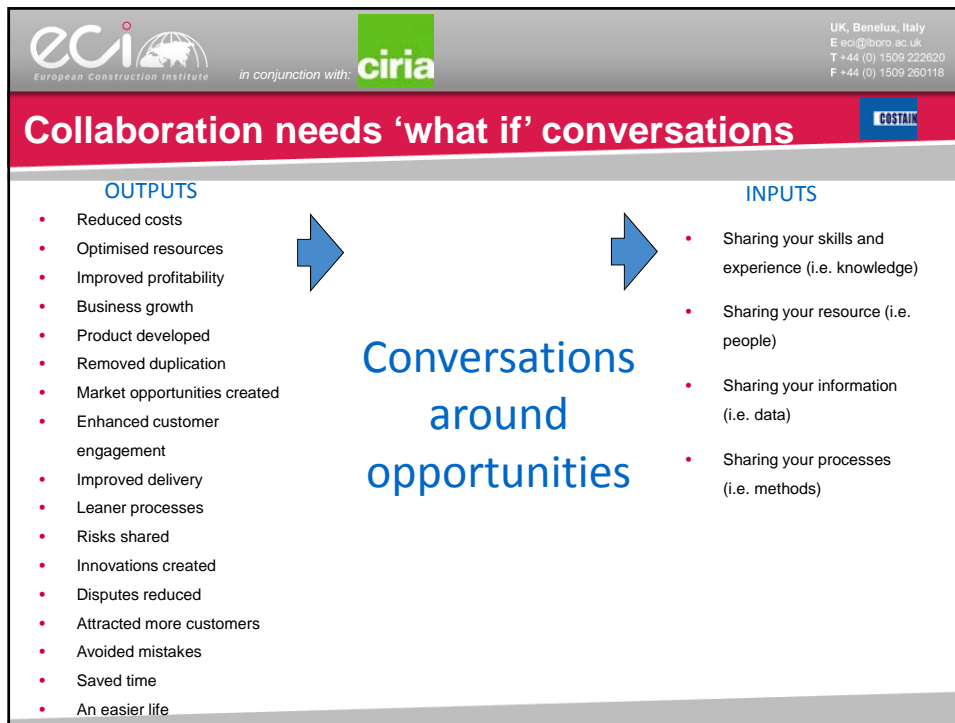
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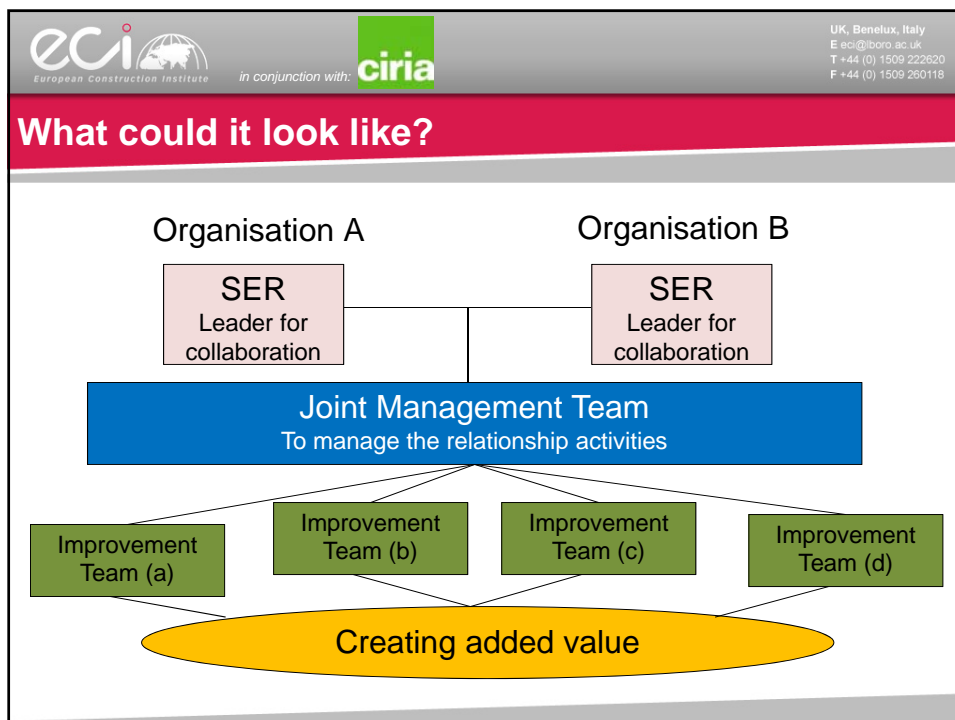
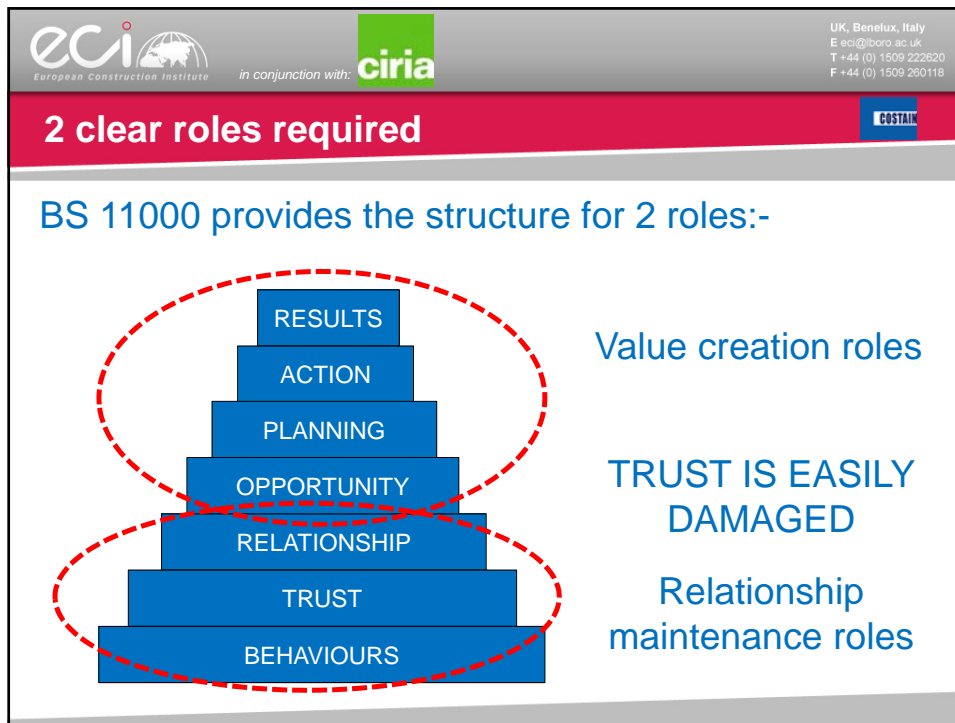



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What benefit could you “get back”?



| | |
|---|---|
| <ul style="list-style-type: none"> • Reduced costs • Optimised resources • Improved profitability • Business growth • Products developed • Removed duplication • Create markets • Customer engagement | <ul style="list-style-type: none"> • Leaner processes • Risks shared • Innovations created • Disputes reduced • More customers • Fewer mistakes • Saved time • An easier life |
|---|---|








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Intangible benefits

- Real relationships developing quicker
- Issues raised & resolved earlier
- Open performance discussions
- Sharing resource and systems
- Innovation discussions occurring
- Alternative options tabled earlier
-and lots more like this.







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Tangible benefits

- Reduced man marking = 60 fewer staff
- Prefabrication = halved time on site
- £14.1 million saved in 6 months


Proving a direct link between cause and effect may be impossible



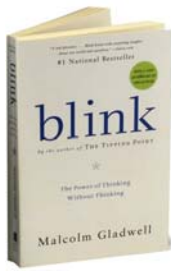
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Why it is difficult to prove



- Strong relationships take time and effort to develop the high degrees of trust required.
- Direct cause and effect is almost impossible to prove.
- Some time you just know instinctively when something is right.





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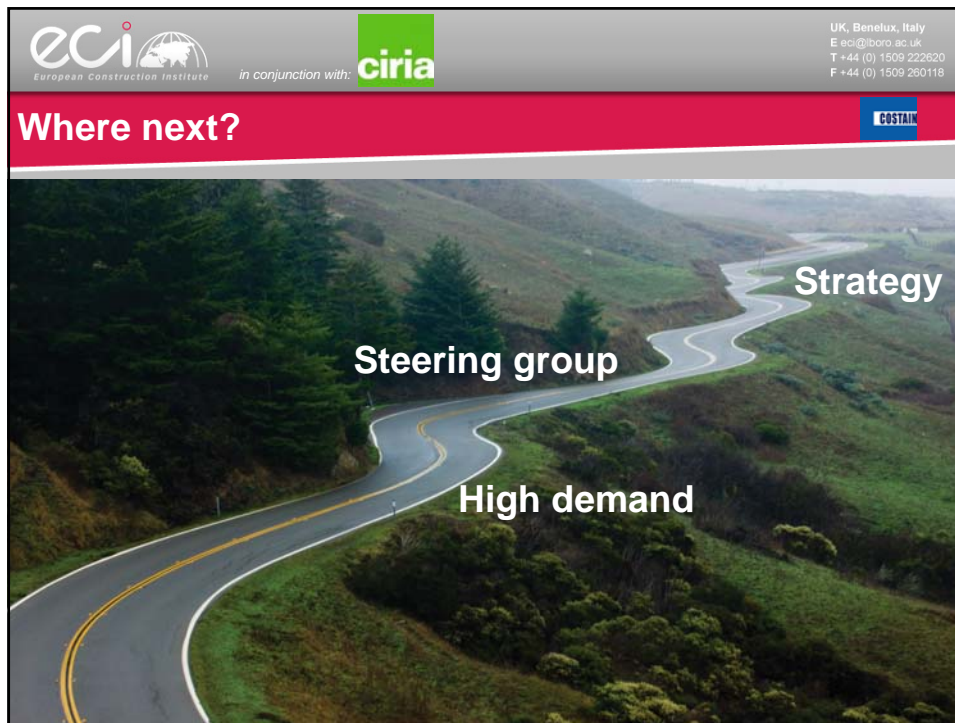
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My top tips



1. Focus on the quality of the conversations, not just the certificates and paperwork.
2. Focus on building the relationship and trust that the benefits will follow.
3. Let the JMT decide if value is sufficient to continue.





Not getting the results you had hoped for?

Take a long hard look at the relationship?

- Is it superficial?
- Exists only on paper?
- Really doing all BS requires?
- Hitting the target and missing the point?

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Questions




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My Contact Details



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Collaborative Working in a “Pure Alliance”



Nick Hilton – Alliance Manager
Julian Spiller – Delivery Manager



Collaborative Working in a “Pure Alliance”

1



A Clients Perspective

Collaborative Working in a “Pure Alliance”

2

A Clients Perspective



- Value
- Learning
- Development
- Achievement
- Outcomes
- Pushing the boundaries



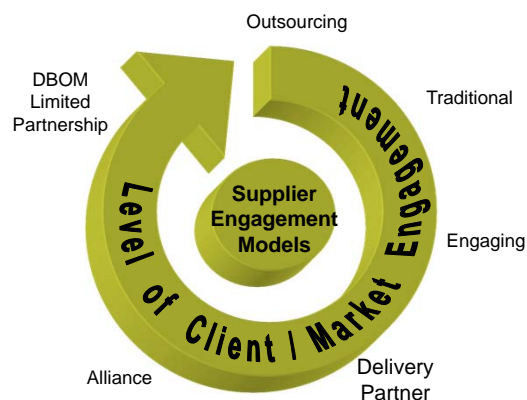
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A Clients Perspective



- Journey From Traditional to Exceptional
- Fixed Price - Target Cost
- Collaborative
- Assessment
- Tools
- Integration



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A Clients Perspective



- A New Journey
- Co-located
- On Site
- Integrated
- Alliance Model
- BS 11000

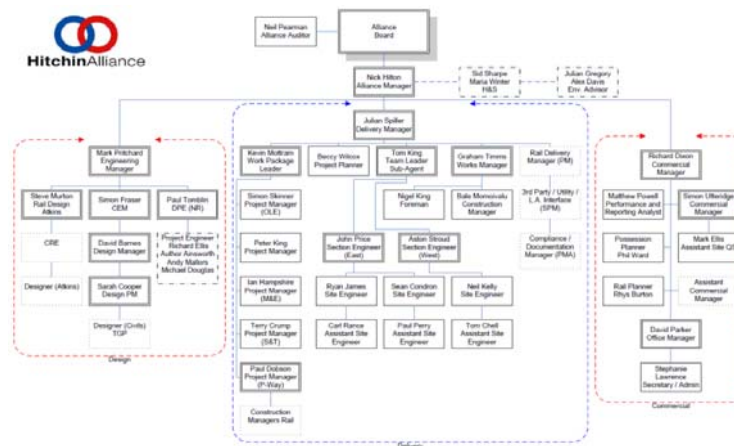


Collaborative Working in a “Pure Alliance”

A Clients Perspective



- Initial Benefits
 - Single Organisation
 - Shared Risk
- Integrated team
 - Best for Project
 - Shared Knowledge



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A Clients Perspective



- Programme
- Railway Delivery
- Opportunity
- Delays & re-planning vs
- Achievement
- Planning
- Success



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A Clients Perspective



- Stakeholders
 - Joint Approach
 - Best person
- All engaged
 - Enabled wide community engagement



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A Clients Perspective

HitchinAlliance

- Making the difference every day
- Trust
- Engagement
- Shared Risk
- Shared Opportunities
- Value Creation
- Best for Project

The diagram shows a cycle of mistrust between the Owner and the Contractor. At the top, a green box states: "The Owner perceives that the Contractor cannot be trusted". A blue arrow points from this box to a blue box on the right: "Contractor works within a commercial environment on a 'can't be trusted' premise". Another blue arrow points from this box to a red box on the left: "The Contractors adversarial attitude reinforces the Owners initial perception." Finally, a blue arrow points from the red box back to the green box, completing the cycle.

Collaborative Working in a "Pure Alliance" 9

A Contractors Perspective

HitchinAlliance

Collaborative Working in a "Pure Alliance" 10

A Contractors Perspective



- Competitive Tender to Alliance Delivery
- Working on Trust
- Mobilisation
- "One" Team



Pile Platforms - March 2012

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A Contractors Perspective



- Scope
- Design Approach
- Workshops and Alignment
- Timescales Reduced
- Streamlined Process



Aerial View April 2012

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A Contractors Perspective



- Building the Team
- Forming and Storming
- First Challenges



May 2012 – Piling at ECML

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A Contractors Perspective



- Norming and Performing
- Milestone Focus
- Supply Chain Support
- Technical Excellence



Cantilever Beams June 2012

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A Contractors Perspective



- Week 14
- RAG
- Final Risk
- Success



"Week 14" – 30th June/1st July 2012

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A Contractors Perspective



- TWAO Planning - Risk
- Project Opportunity
- Success – Failure – Success
- Win/Win/Win....



Archaeology and Development June 2012

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A Contractors Perspective



- Next Target
- Multiple fronts
- Transition of site



Deck Construction and S&C Installation

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A Contractors Perspective



- Building a Railway
- Change of Rules
- Commissioning



Commissioning

P-Way Construction

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Summary



- Outcomes
- Lessons Learned
- The Legacy



NR Partnership Award – Best Collaboration



First Train on the Chord



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