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Lean in Public Sector Construction

Shepherd Construction Ltd. Delivering Value to Schools

Nicola Morrey,
Head of Business Systems

Shepherd

A thinking business

Overview

- Introduction
- Introduction to Shepherd
- History of lean within Shepherd
- Vision to provide integrated solutions
- Making the value proposition flow
 - Understanding the value proposition
 - Delivering value during construction
 - Measuring delivery of value

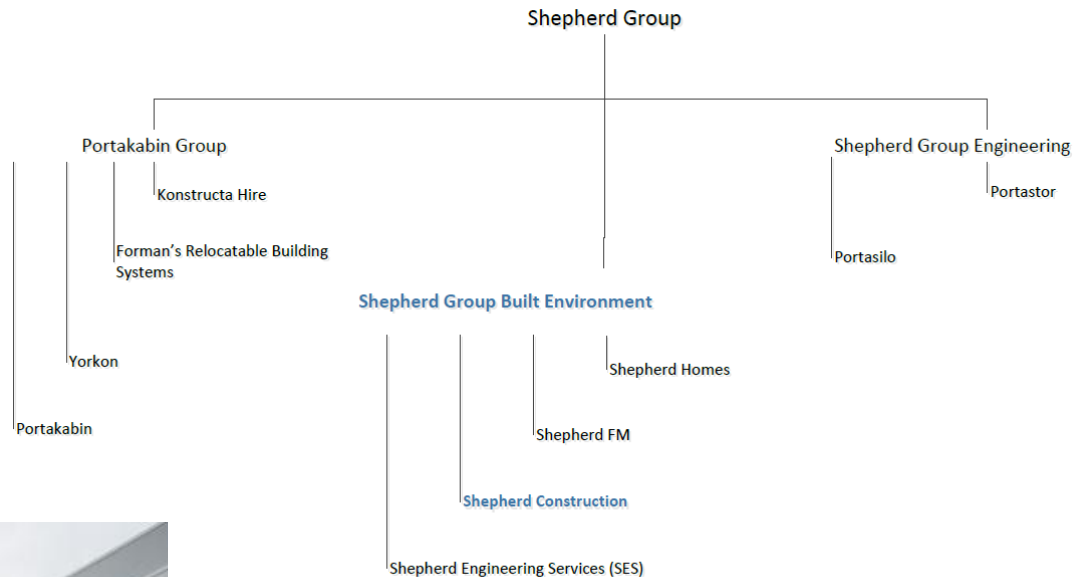
Introduction

- Head of Business Systems for Shepherd Group Built Environment
- Background in Aerospace
- Construction Lean Improvement Programme (CLIP)
- Joined SCL in October 2007 as Process Improvement Manager

Introduction to Shepherd

Shepherd Construction

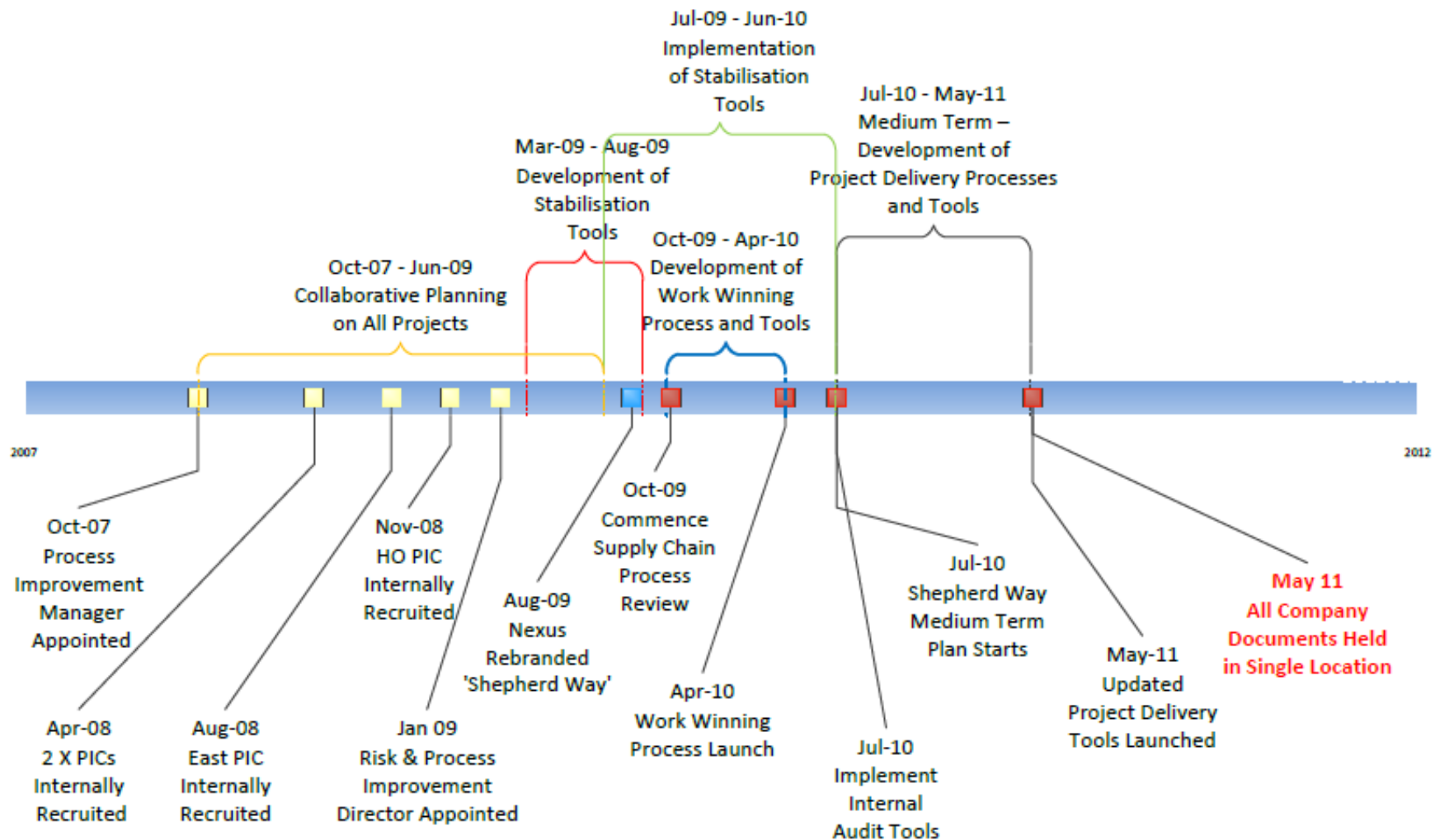
- ~£350 million turnover
- 3 regional businesses
- ~ 360 employees



Shepherd Group

- Capability to offer solutions across the built environment

History of Lean at Shepherd



Vision to provide integrated solutions

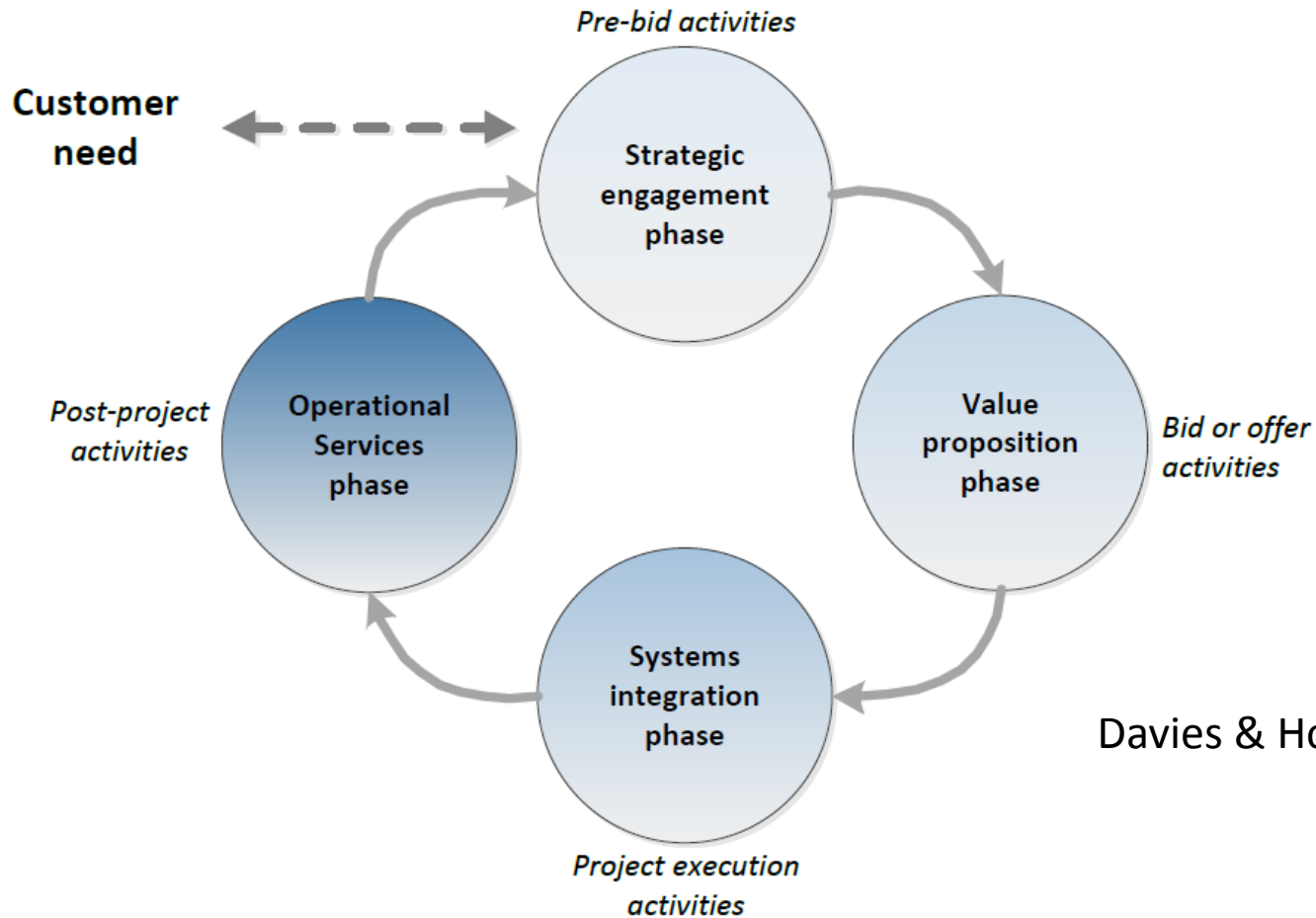
Traditional Contractor

- One off projects from speculative tendering
- Costs and revenues associated with construction activities
- Targets focussed on the construction activity
i.e. build a school

Integrated Solutions Provider

- Long term business relationships/frameworks
- Costs and revenues associated with financing, business consultancy, whole life FM
- Targets focussed on the client and meeting their business objectives
i.e. Build an education facility

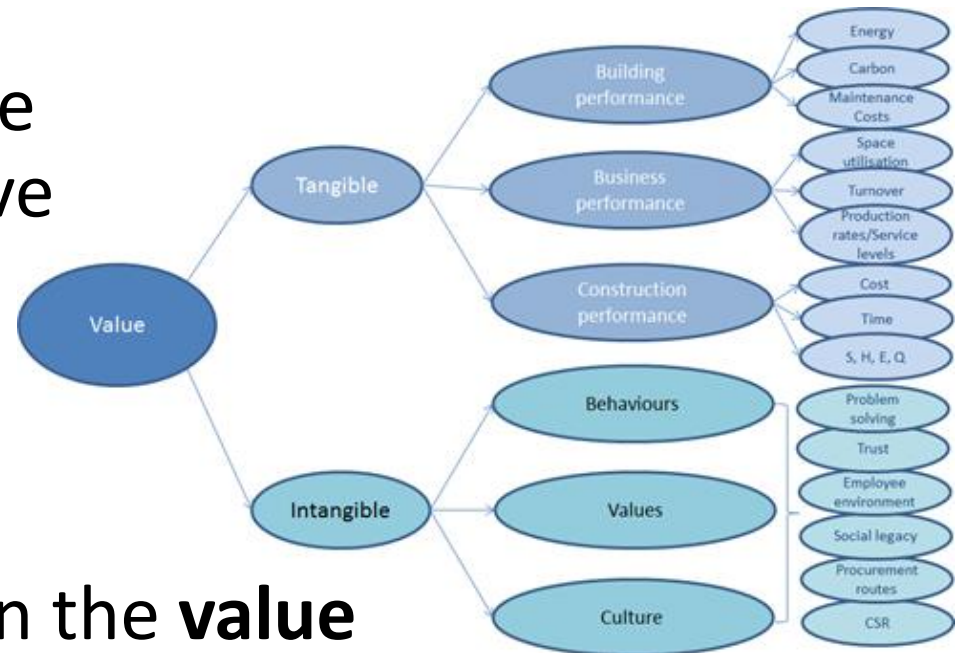
Integrated solutions lifecycle/value stream



Davies & Hobday, 2005

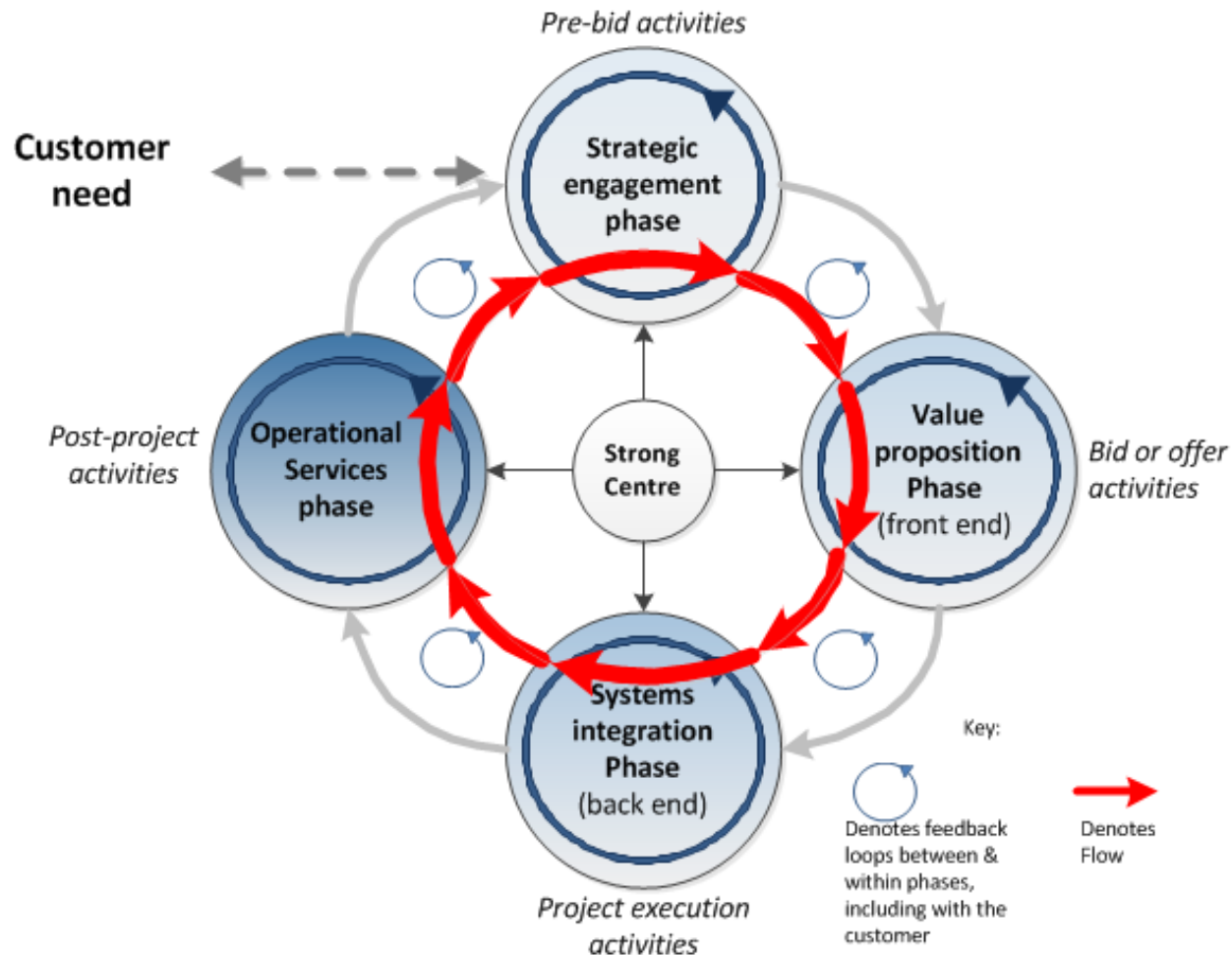
Integrated Solutions Provision and Lean

- Specify **value** from the customer's perspective
- Identify the actions on the **value stream**
- Make the value creating actions **flow**



Womack & Jones, 2003

Making the value proposition flow



Developing the value proposition

- Design developed in collaboration with Head Teachers and staff at engagement meetings
 - Design supports curriculum and ethos/vision



Developing the value proposition

- Sector expertise – educationalist
 - Understand learning space adjacencies
 - ‘non compliant bid’
 - Improved circulation spaces
 - Vertical integration
 - Flexible fit out options

Developing the value proposition

Set of design and construction principles to create a bespoke, educationally led solution

- A simple & efficient building form
- A simple, repetitive structure – structural grid & critical dimensions
- Optimum floor to floor heights
- Standardised building elements and systems
 - E.g. External framing systems, window systems, stairs
- Prefabricated, offsite construction
- Pre-selected supply chain partners
- Cost and timeline certainty

Developing the value proposition

- Weekly design team co-ordination meetings
- Fortnightly client meetings
- Staged client sign offs
- 'Hold point' at week 4 of ITT stage to check affordability
- Regular engagement with planning authority
- Open Book costing and regular cost reviews

Capturing the value proposition

- Service Delivery Plan
 - Captures objectives and KPIs
 - Team charter

CompanyProcess	Service Delivery Plan
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Team Principles
In order to ensure all project targets are met and a culture of customer satisfaction is developed, team commit to working and behaving in the following way:

- Insert team principles/charter etc.
- These can be developed with the team, including the client, at a team building event.
- The exact format of the output is at the discretion of the Project Manager

CompanyProcess	Service Delivery Plan	Shepherd Construction Ltd Quality Management System Accredited with ISO 9001
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Shepherd Targets/KPIs
The following are the Shepherd specific targets and KPIs related to this project.
These targets are directly linked to Company Policies, company KPIs and business plan.

Delivery: *insert target dates and milestones*

Quality: *insert quality targets relating to audit and physical quality on site*

H&S: *insert AIR target, REDDOR target*

E: *insert project specific water, Carbon, electricity & waste targets (take from Smartwaste)*

Cost: *insert expected margin from Trade up Plan*

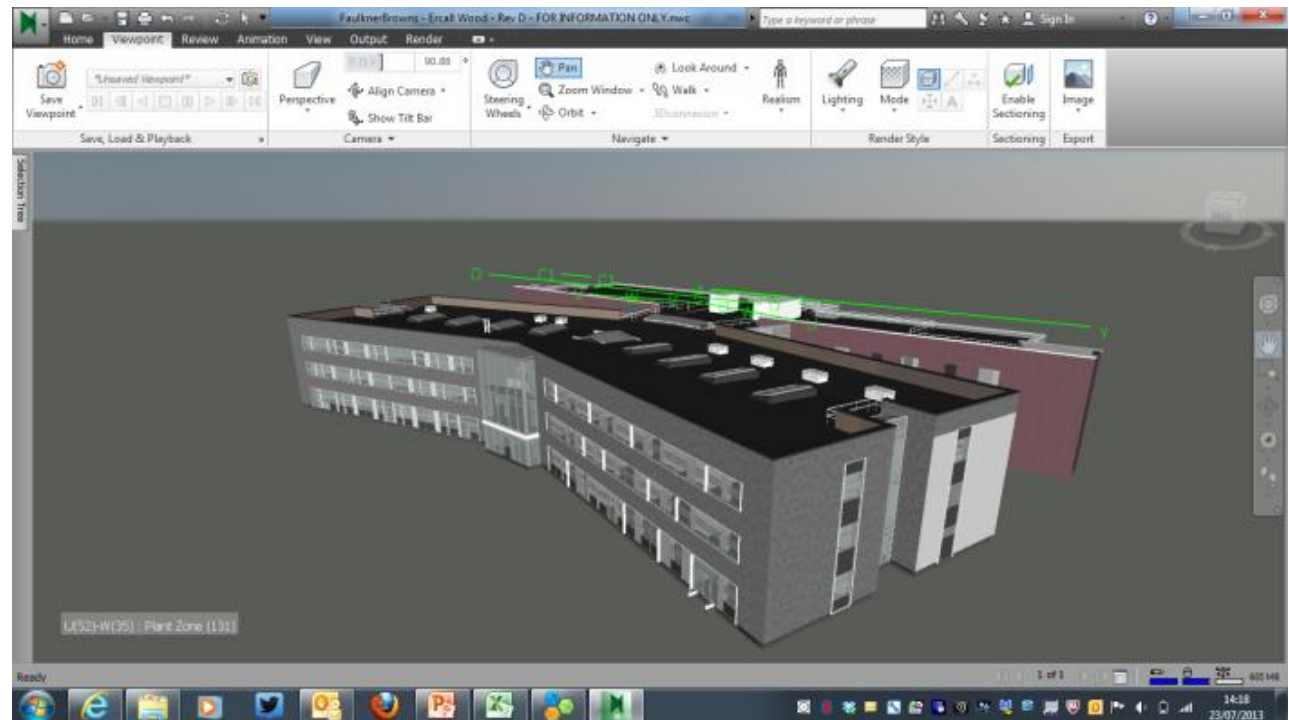
Operation: *insert any handover & aftercare targets*

Client & Shepherd objectives and targets are cascaded to each member of the team through their individual Performance Objectives. Performance against these individual objectives is monitored through team meetings and annual individual Performance Reviews.

First Issue: DDMMYY Revised: DDMMYY Rev N°: Ref N°: 8 of 21

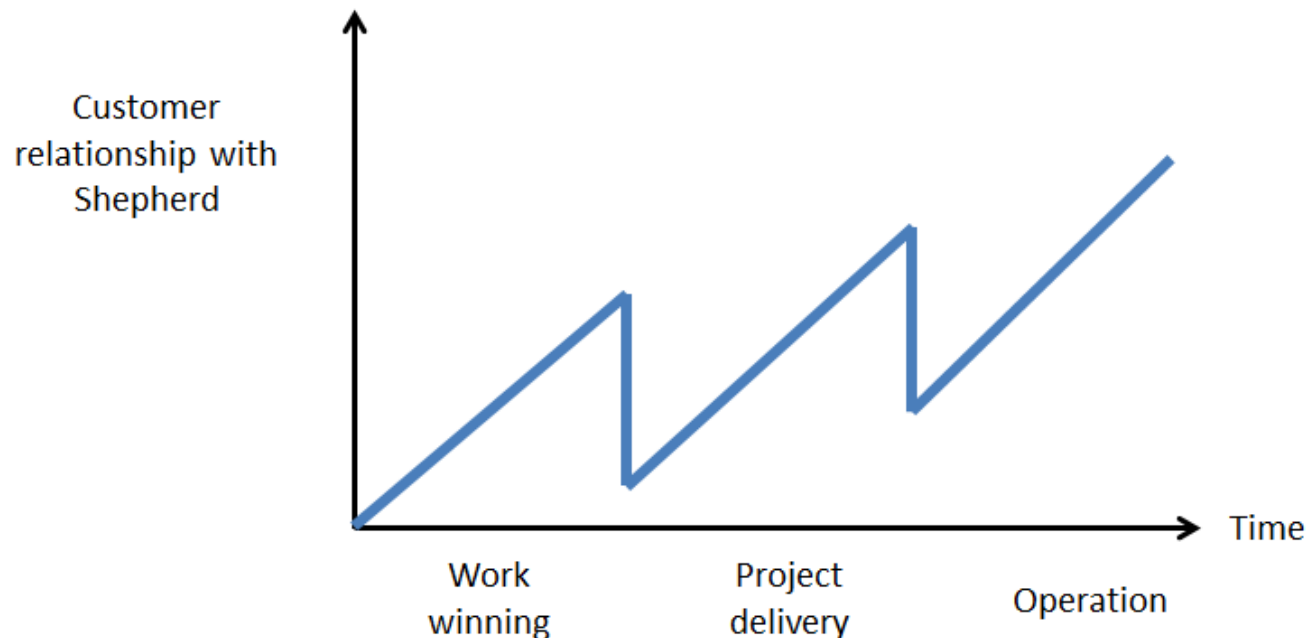
Capturing the value proposition

- Room data sheets including ICT, M&E and FF&E
 - Developed collaboratively
 - Staged sign off
- BIM



'Handover' of the value proposition

- There is a risk of losing the value proposition during the transitions from one stage of the lifecycle to the other

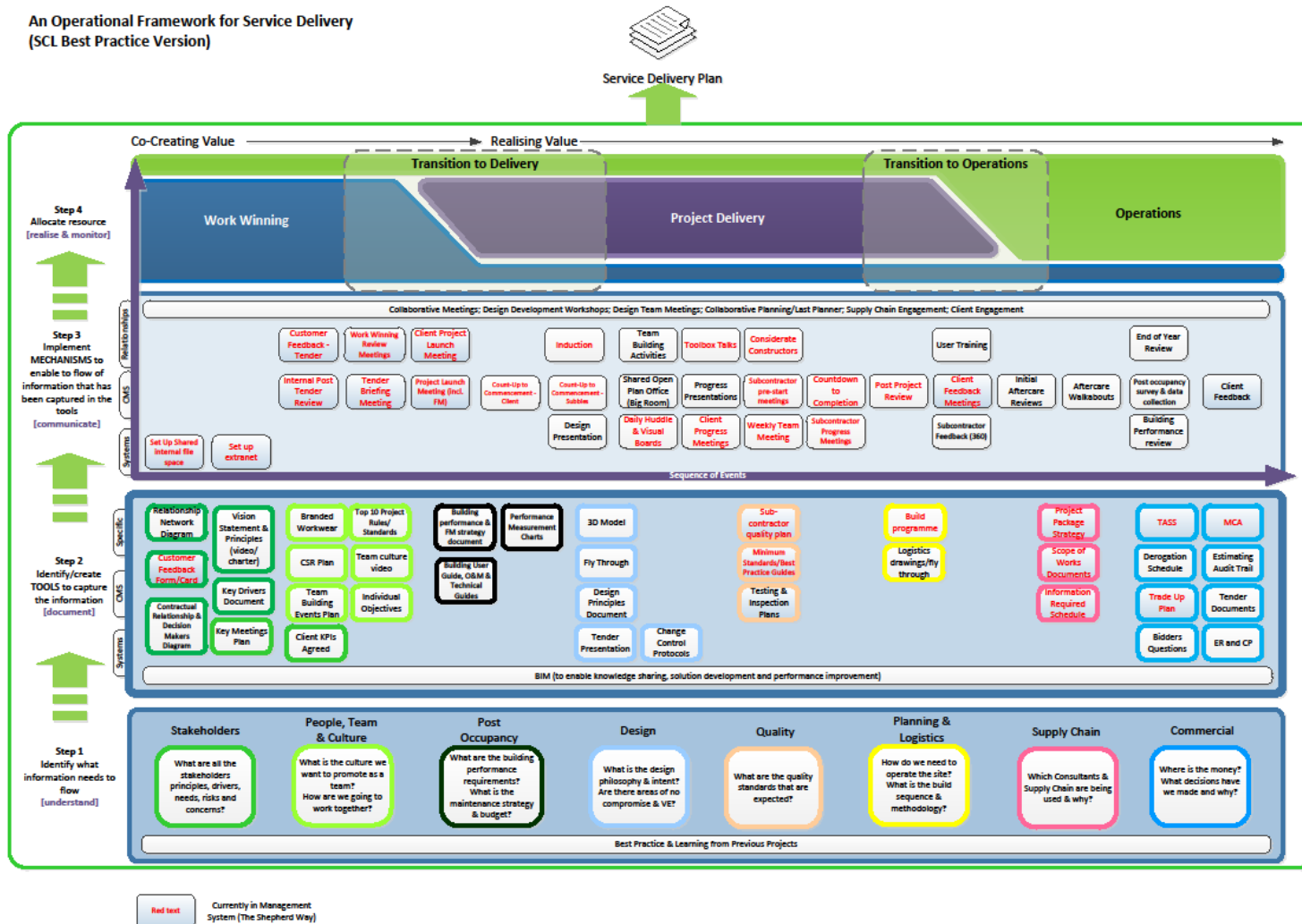


'Handover' from work winning to project delivery

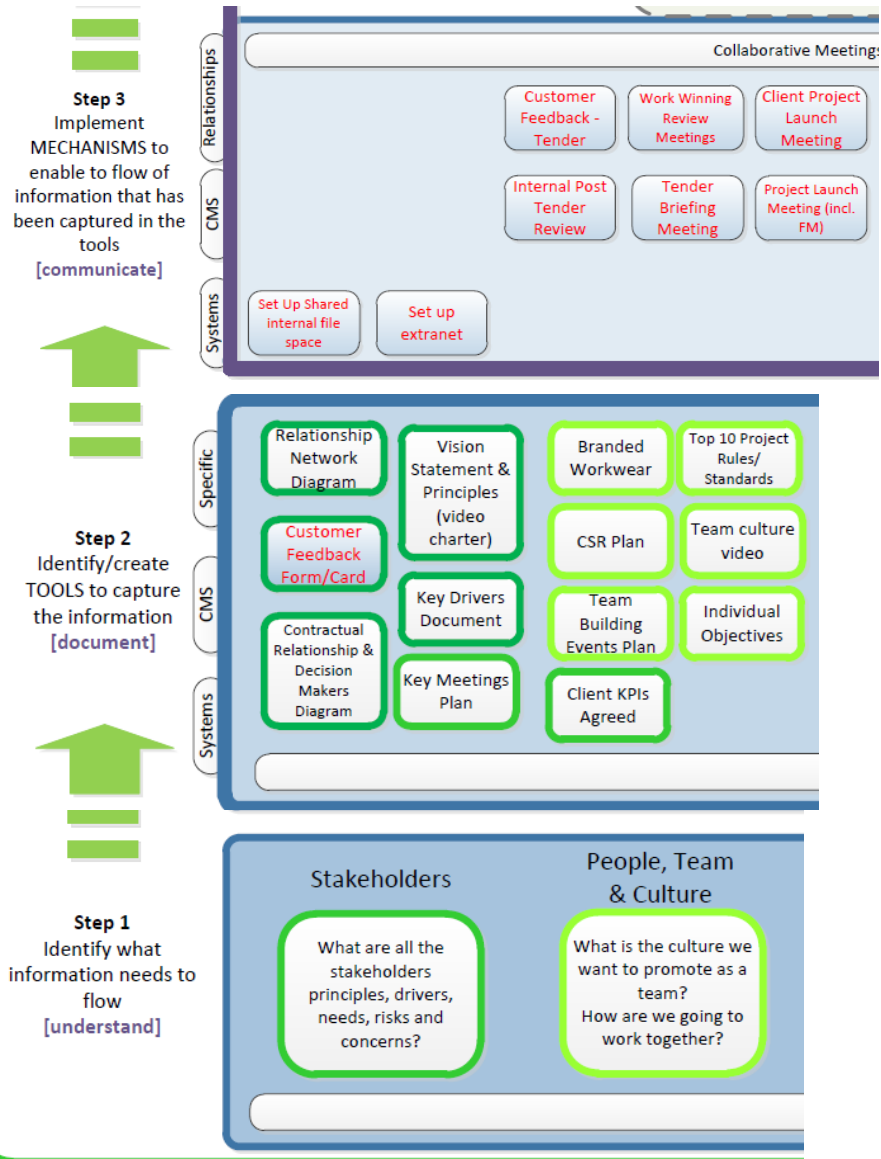
- What we are doing to ensure the successful flow of information
 - Operational Framework for Service Delivery
 - The Service Delivery Plan
 - Project launch

Operational Framework for Service Delivery

An Operational Framework for Service Delivery
(SCL Best Practice Version)



Operational Framework for Service Delivery



Delivering the value proposition

Making the value flow throughout project delivery phase

- Single team approach
- Co-located team
- Collaborative planning (Last Planner™)
- Staged design sign off by the client team



Delivering the value proposition

Making the value flow throughout project delivery phase

- Mock ups and samples
- Sample room for real life testing
- Feedback loops
 - Customer feedback
 - Best practice sharing sessions
- Senior managers managing the customer relationship

Measuring delivery of the value proposition

- Implementation of KPIs and regular reporting
- Customer satisfaction process
- Public sector clients drive formal KPIs
 - Improvements across frameworks
 - Improvement across a batch of projects
- Challenge given the range of ‘customers’
 - End users
 - Community
 - Funding body

The future

- Using BIM to improve data capture
- Collection of post occupancy data
- Use of information to develop improved solutions
- Creation of sector experts
- Research opportunities with regard to measuring the value proposition/solutions provision

Group Discussion

Questions