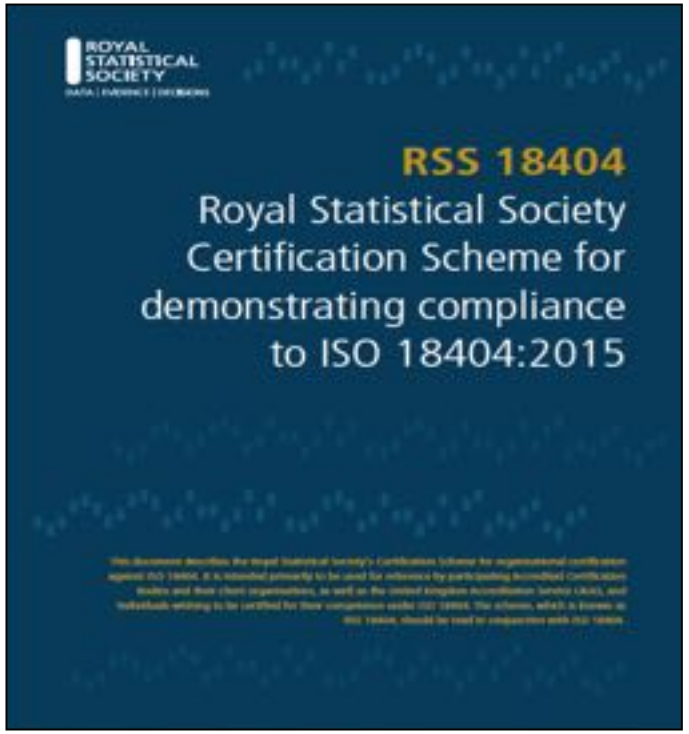
ISO18404: A Model for Lean Transformation in the construction sector



Gilbert & Goode CONSTRUCTION

ISO International Organization for Standardization

ISO 18404:2015

bsi.

Lean Construction Intervention or Transformation?

wsp

citb

Introductions

- Steve Ward – Technical director-WSP Continuous Improvement Services
  - Started as Apprentice Carpenter 1976
  - Discovered Lean 2001 whilst at Pearce Group
  - Became Master Engineer for BRE CLIP Programme in 2004
  - PhD in Lean Construction
  - ISO 18404 Lean Expert 2016
- Simon Caklais
  - Managing Director Gilbert & Goode Ltd
  - CIOS LEP Board Member leading construction & housebuilding sector strategy
  - Former Head of Projects for BAA (1999 – 2006)
  - ISO 18404 Lean Leader 2018

Lean Intervention Vs Transformation

- Lean Intervention
  - Definitions
    - The act or fact of intervening.
    - Ad Hoc deployment of Lean Techniques based on Waste Removal

- An Example

What do you see?

When you look at sites, offices, fabrication yards…

What do you see?

Lots of busy people?

Busy at what?

ACTIVITY = WORK + WASTE

3 Elements of a Day

Value Adding

Something changes to get closer to what the customer wants

Support Activity

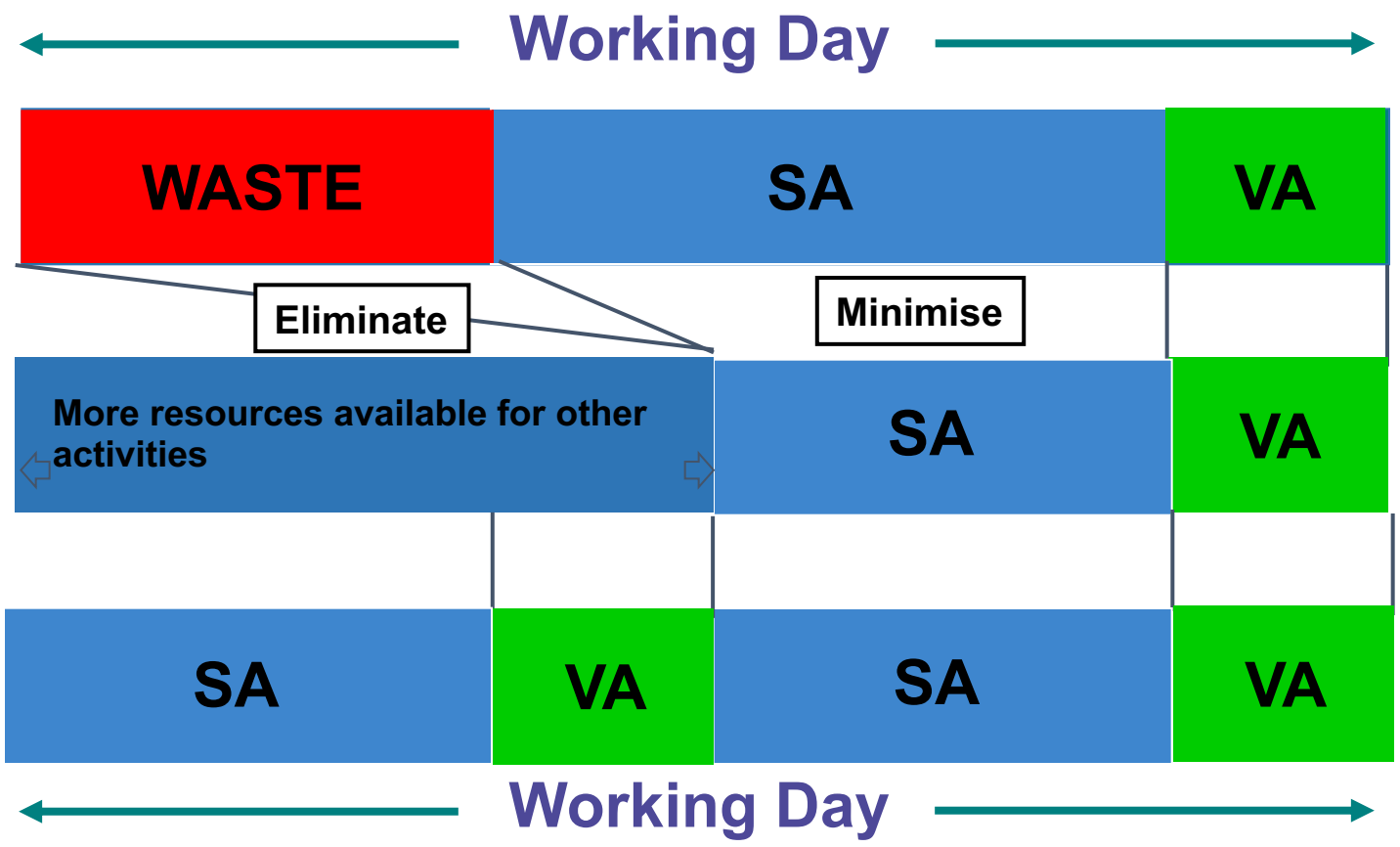
Something we currently have to do but does not in itself add value for the customer

Waste

Transport
Inventory
M otion
Waiting
Over Process
Over Production
Defects

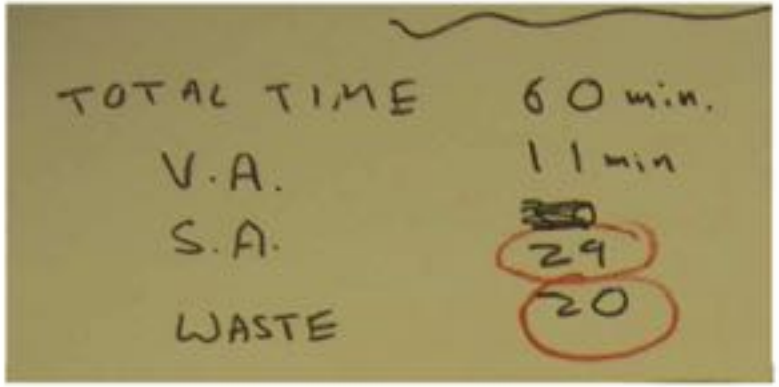
Why eliminate Waste?

To raise the ratio of Value Added activities to Support Activity and Waste



Work Observation

Value Stream Map (VSM)



Support activity & waste constitute 83% of the concrete panel erection process. Main waste activities include:

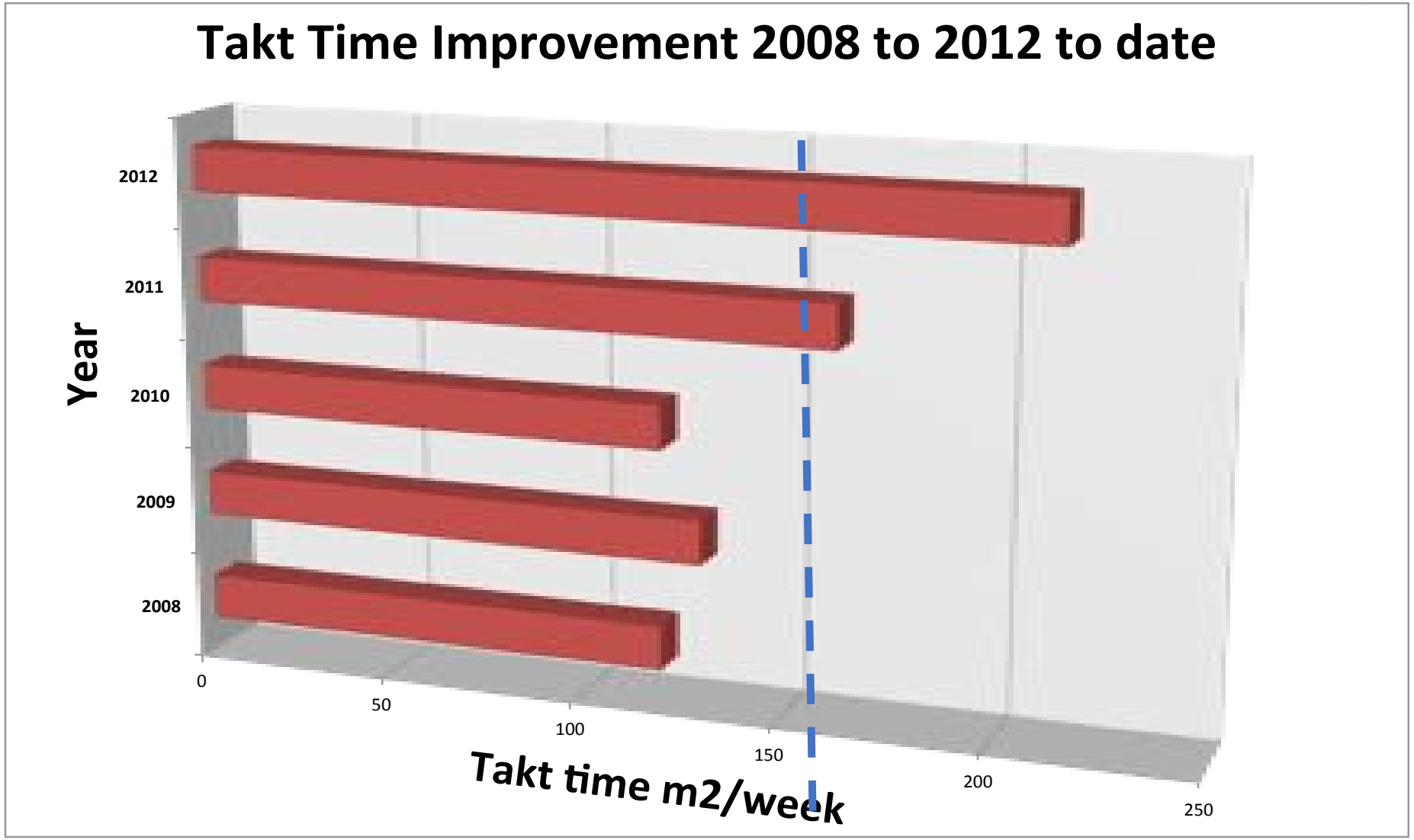
1. Locating & identifying the correct brackets
2. Moving and manoeuvring the cherry picker
3. Adjusting the concrete panels

Lean Intervention Vs Transformation

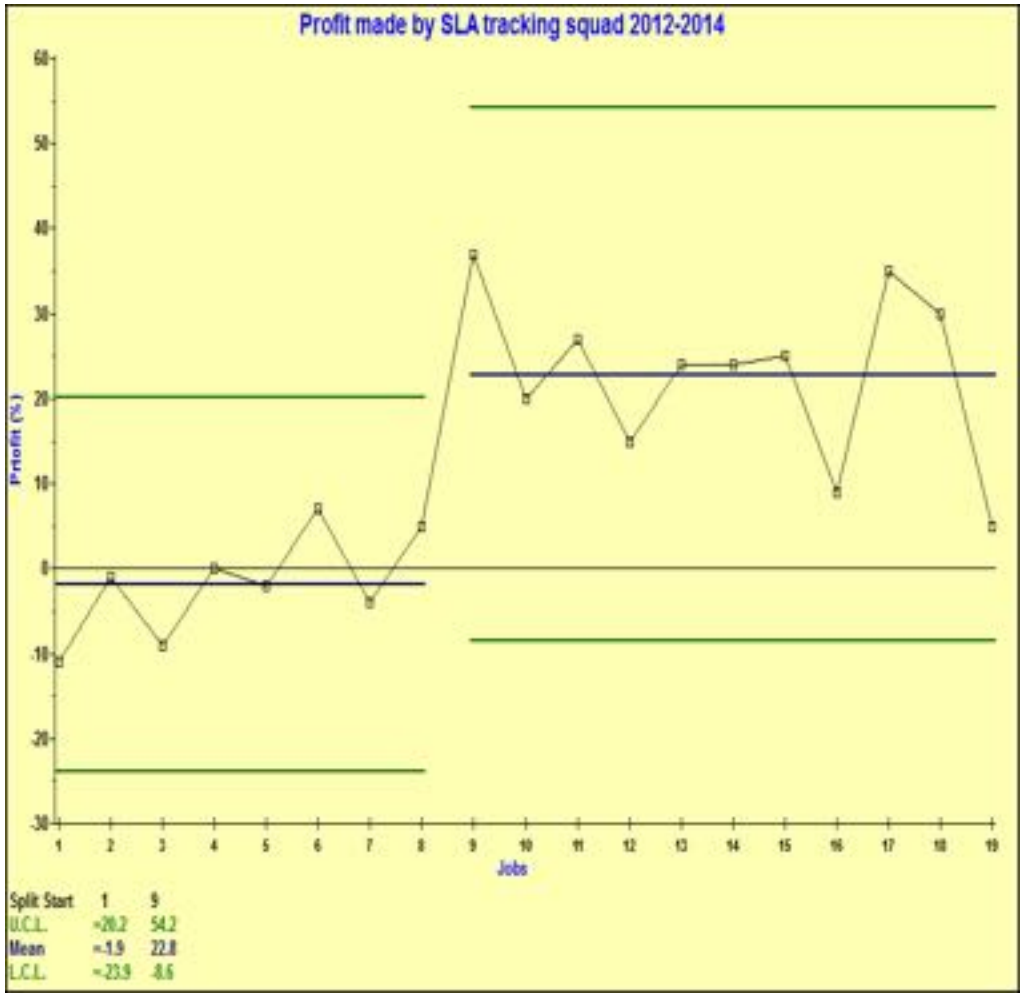
- Lean Transformation
  - A systems wide and continuous approach to improving operations based on Lean Thinking that benefits customers, the business and employees in the long term

- An Example

Interesting chart



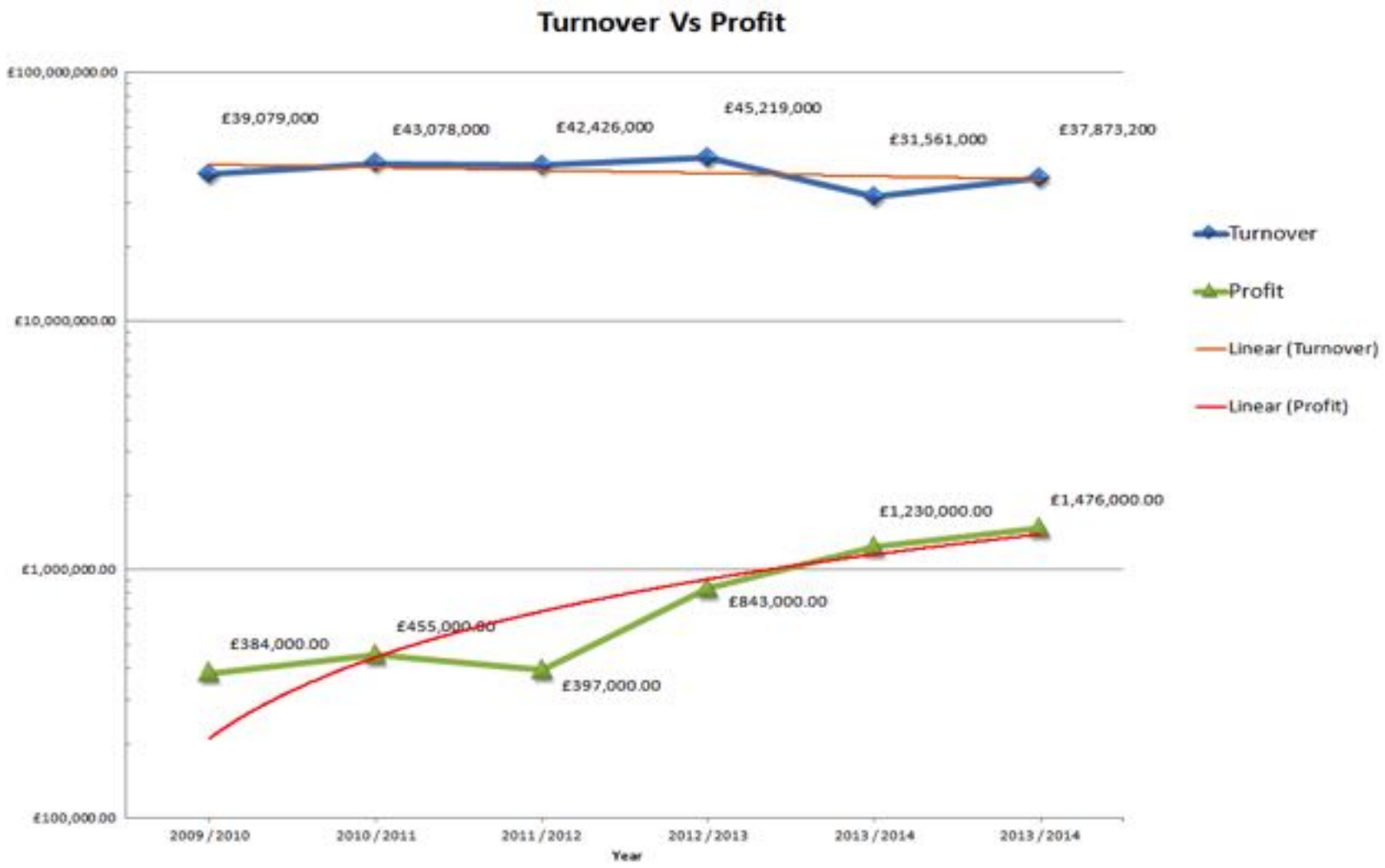
Small Scale Actions…



Over the last 3 years…

Street Lighting	+20%
Patching	+20%
Slurry sealing	+30%
Blairgowrie	+10%
Forfar	+10%

Produce large scale benefits



Why ISO 18404?

- We Didn't know how it might apply/work?
- Had heard Resistance?
- Critics?
- Gut feel was it's the right way to go.

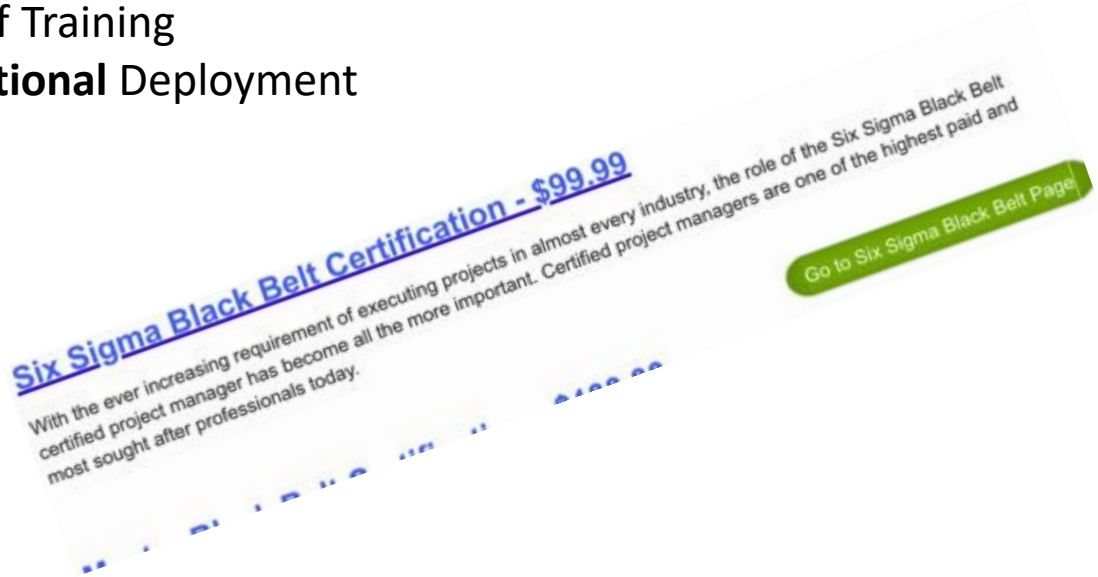
Now we think have an informed view.

Why ISO 18404?

ISO 18404 deals with two issues.

- Quality of Training
- **Organisational** Deployment

Quality of Training



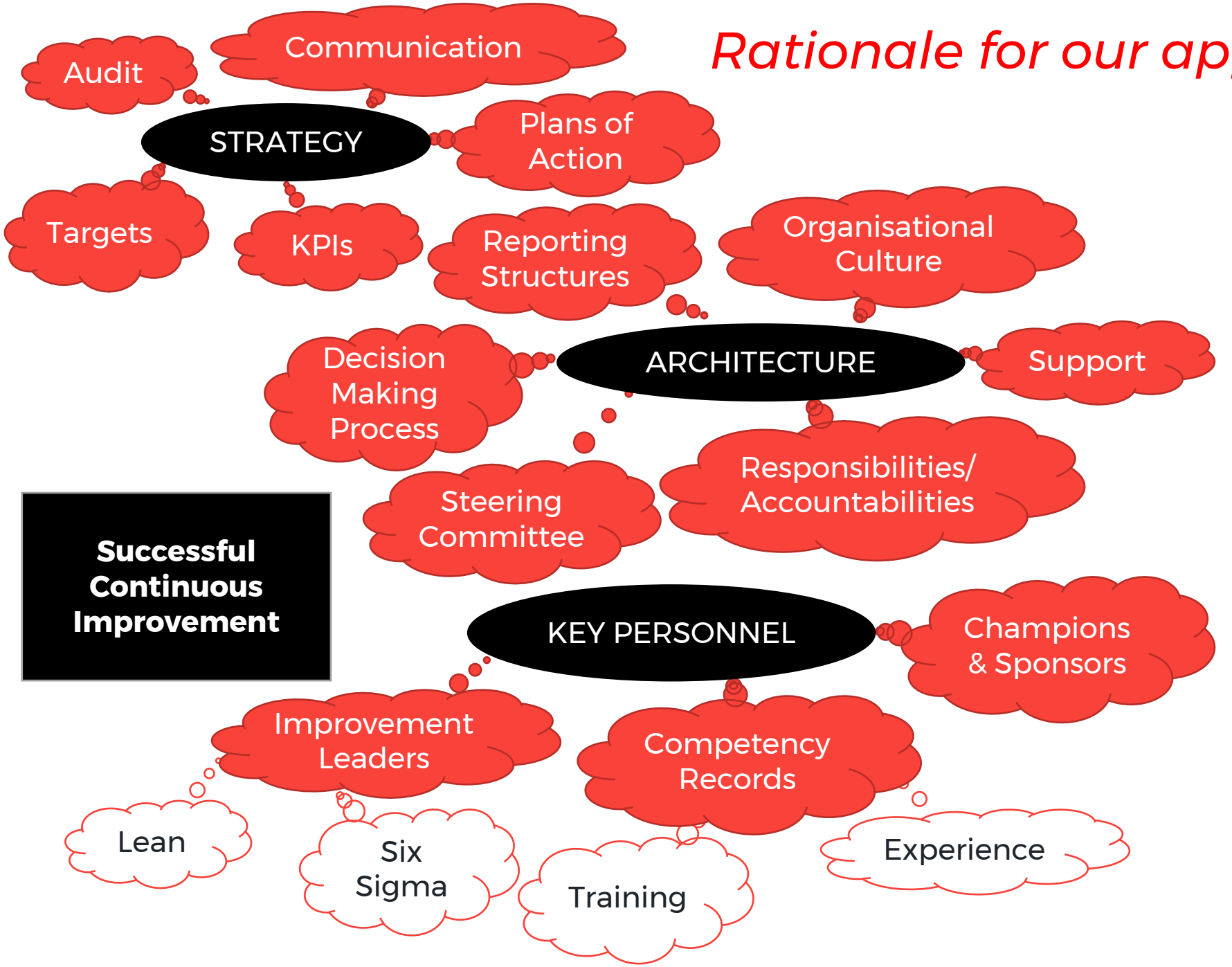
- Yellow Belts? Really?
- Quality of training – some questionable
- Tendering confusion for clients – companies claiming to be Lean to get work.

Why ISO 18404?

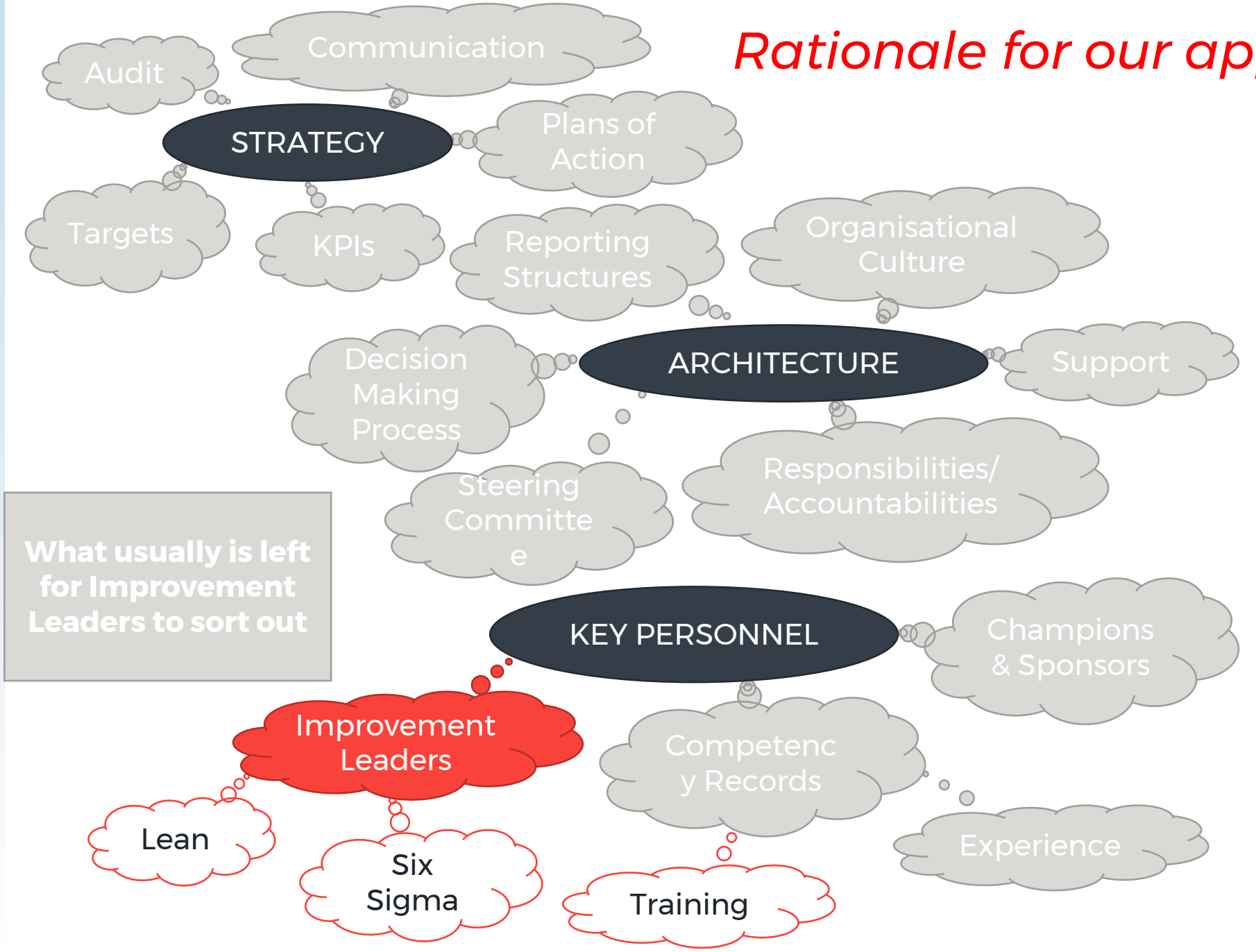
- **Competency** of Personnel
  - Training, experience, auditable competence

- **Adequacy of the organisations approach**
  - **Strategy**
    - Must be clear link to business plan
    - Defined objectives
  - **Architecture**
    - E.g. steering groups, reporting structure, accountabilities, support.
  - **Continuous Improvement**
    - Defined Metrics, targets & review mechanisms

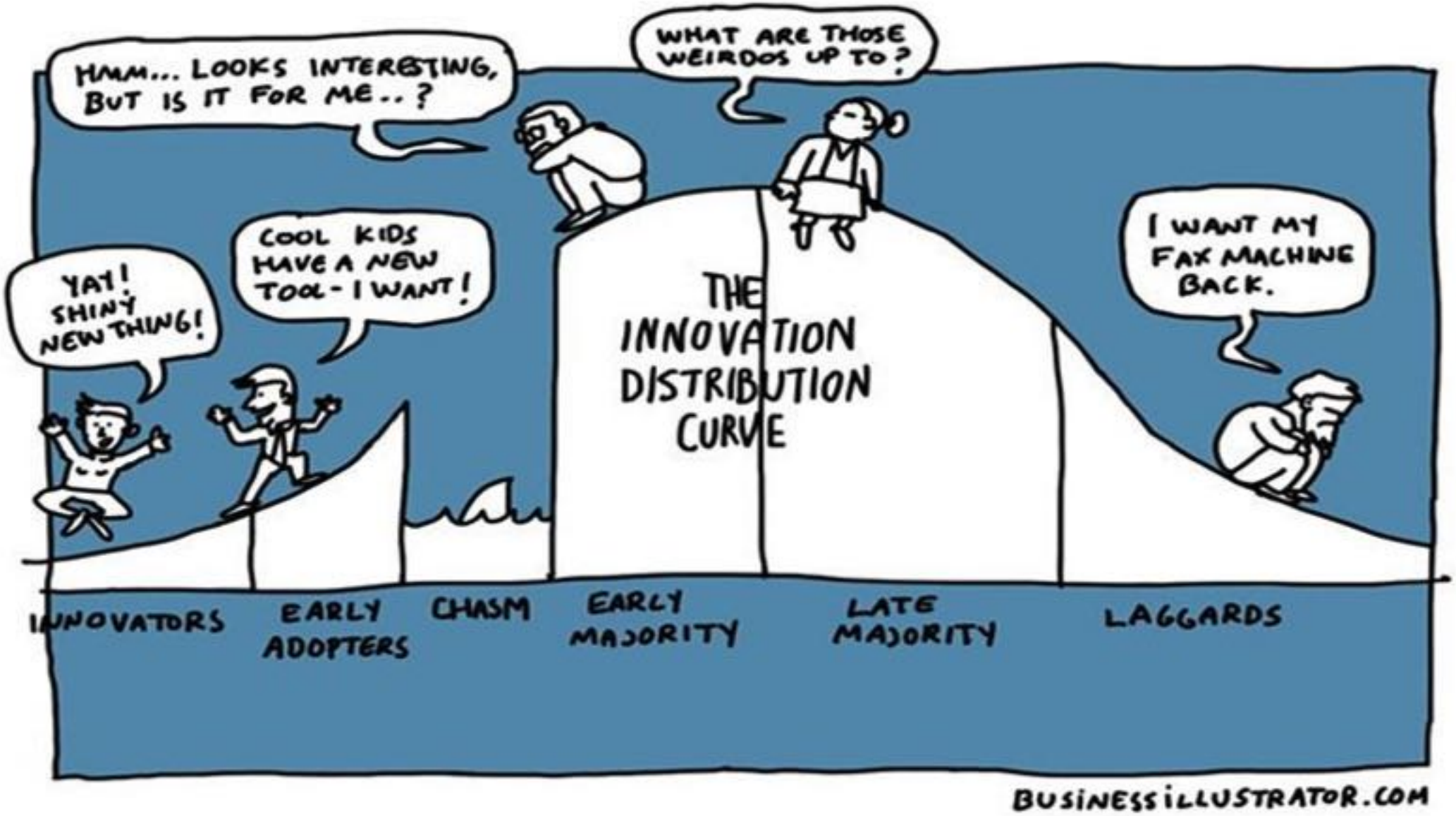
Rationale for our approach



Rationale for our approach



What usually is left for Improvement Leaders to sort out


HMM... LOOKS INTERESTING, BUT IS IT FOR ME..?
WHAT ARE THOSE WEIRDOS UP TO?
YAY! SHINY NEW THING!
COOL KIDS HAVE A NEW TOOL - I WANT!
I WANT MY FAX MACHINE BACK.
THE INNOVATION DISTRIBUTION CURVE
INNOVATORS
EARLY ADOPTERS
CHASM
EARLY MAJORITY
LATE MAJORITY
LAGGARDS
BUSINESSILLUSTRATOR.COM

Piloting ISO 18404 as a Transformation Model

Gilbert & Goode

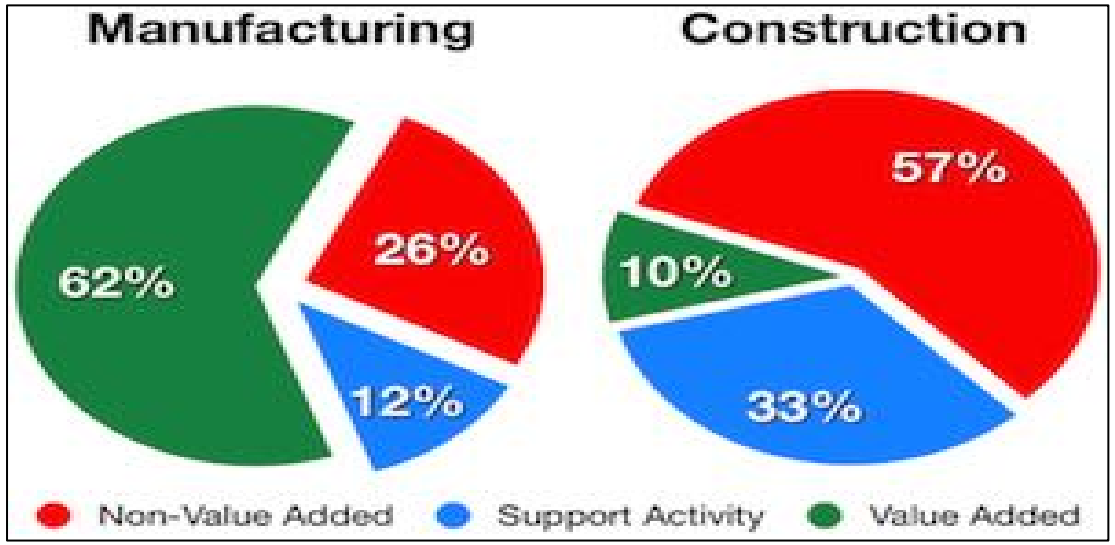
- Cornish Main Contractor & Developer (with a social purpose)
- Operating for over 40 years
- C. £25 Million Annual Turnover
- Over 70 employees
- Owned by Ocean Housing Group

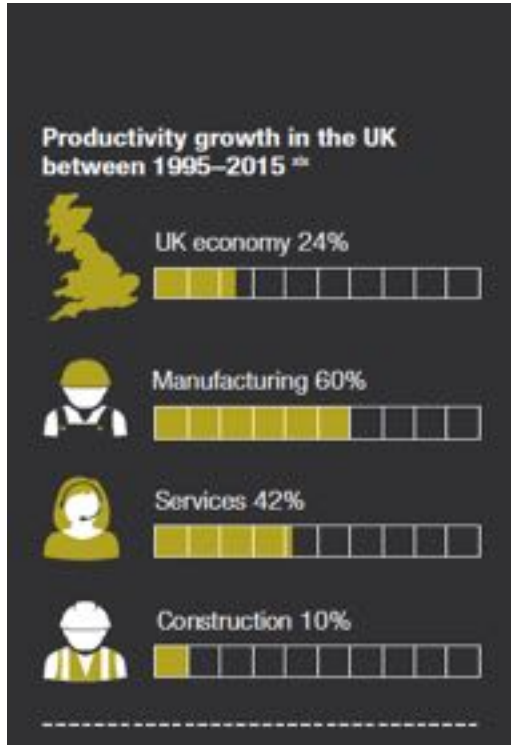
Lean Journey

- Knowledge transfer from BAA of basic lean tools
- Need to drive business efficiency through increased productivity & reduction of waste
- Met Steve Ward through Constructing Excellence Network
- Initiated awareness & training sessions for construction teams
- Held collaborative planning sessions for pilot projects
- Initial awareness sessions for supply chain

Productivity

Cornwall Productivity
75.1% of UK Average





Lean Journey

- Success realised for two pilot projects; desire to rollout across company and all operations
- ISO18404 identified as possible route to support this
- GAP Analysis carried out by Prof. Tony Bendell
- Bid made to CITB for the implementation of ISO18404 within construction
- Deliverables agreed
- Agreed funding through CITB

CITB Agreed Deliverables

- 2 Lean Leaders
- 8 Individuals Trained to Lean Practitioner (6 certified)
- 100 Staff & Supply Chain Lean Touch
- Organisation Accreditation to ISO 18404
- Creation of Future Training Materials
- Case Study (Best Practice Guide)
- Partnered Organisations

Appointment of Resource

- External Lean Expert
- External Lean/RSS/Audit Professional
- Internal Project Manager
- Internal Auditor
- Internal Staff Time for Training / Completing Portfolio’s

Specific Resource Allocations

- 4 Lean Leaders
- 6 Lean Practitioners
- 13 Lean Implementers
- 100 Staff & Supply Chain Lean Touch

- 6 KPI's & Associated Forums
- 1 Lean Management Team Overarching Forum

G&G Lean Objective Hierarchy

Ocean Corporate Plan
200 new homes per annum

G&G Vision / Raison D'etre
Maximise value to the Ocean Group

How
Professionalism & Innovation (Good to work with/for) – Productivity & Efficiency – Customer Satisfaction/Reputation

Long Term Targets

20% design time reduction	20% site time reduction	10% build cost reduction	100% Customer Satisfaction	20% defect reduction	10% accident reduction

Short Term Targets

10% design time reduction	10% site time reduction	5% build cost reduction	98% Customer Satisfaction	10% defect reduction	5% accident reduction

Deployment
Lean Forums – Improvement Projects via Lean Leaders, Lean Practitioners, Lean Implementer's

Performance Analysis

(Assess) Benchmark performance / set targets

(Plan) Analyse for Improvement Opportunities

(Do) Implement Improvement Projects

(Check) Re-assess Performance

(Act) Adjust Processes to Include Improvements

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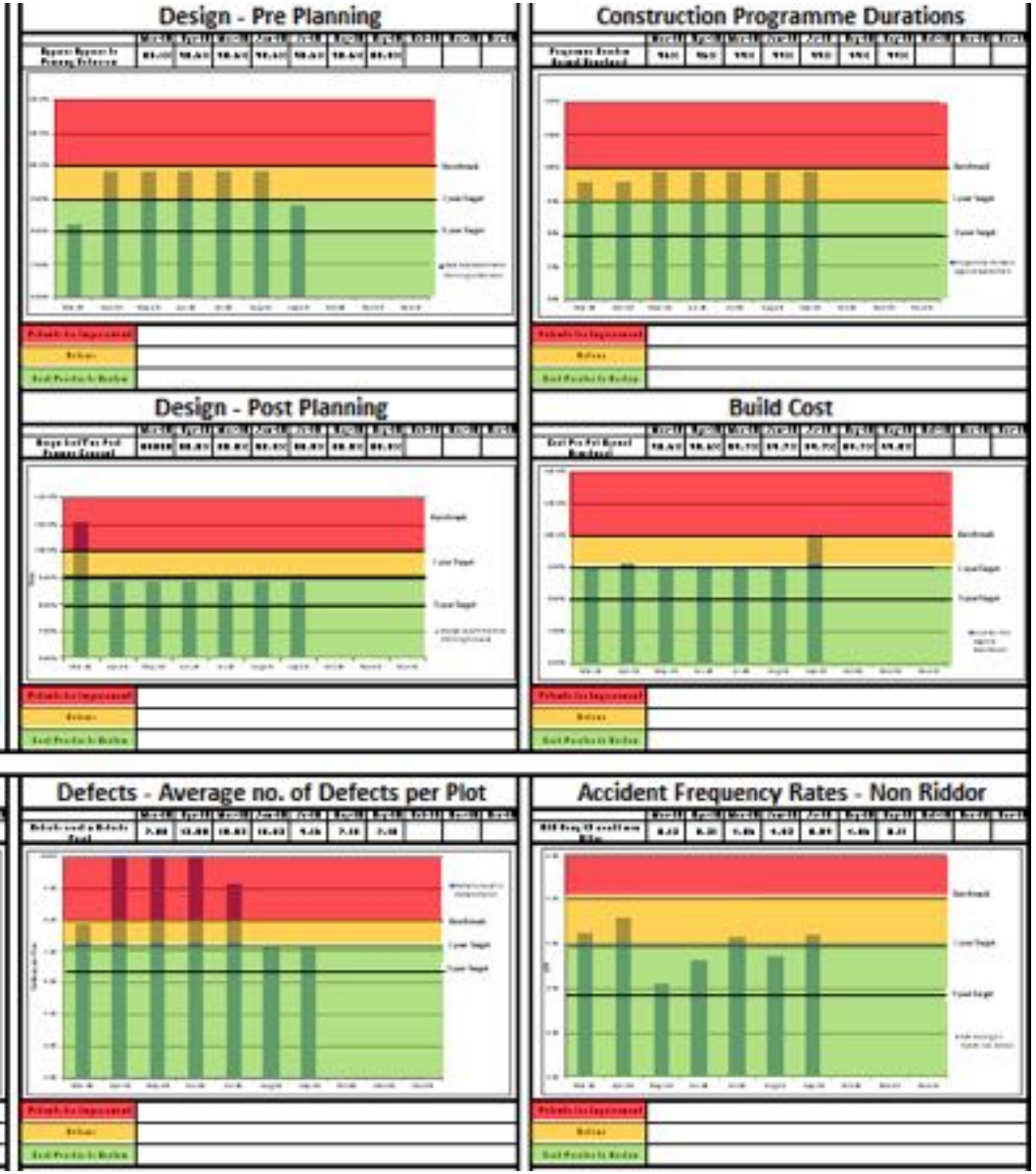
Business KPI's

Working towards ISO18404



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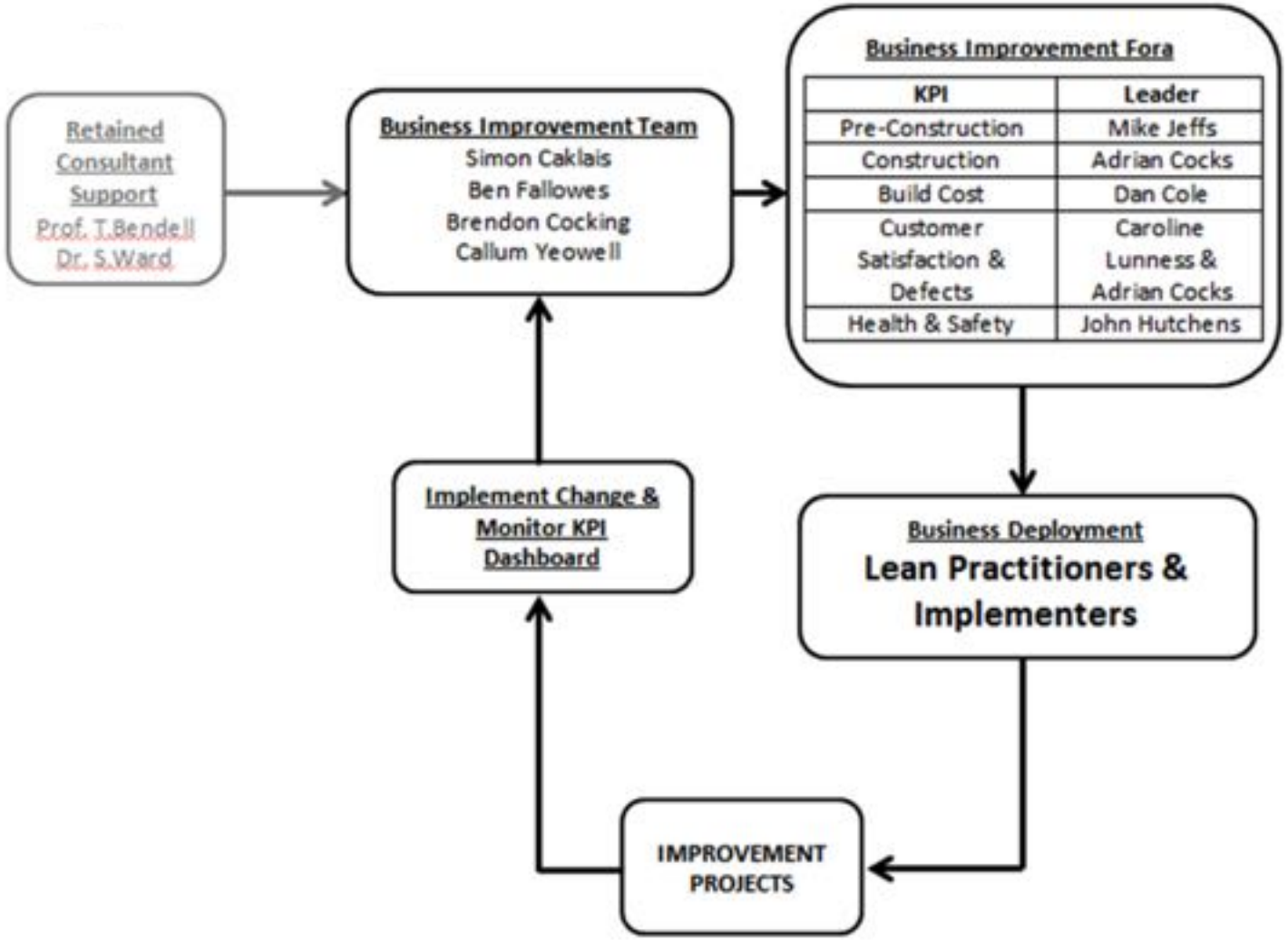
Business Improvement Cycle



Continuous improvement works most effectively when it is implemented and influenced with input from everyone
as it provides an integrated approach

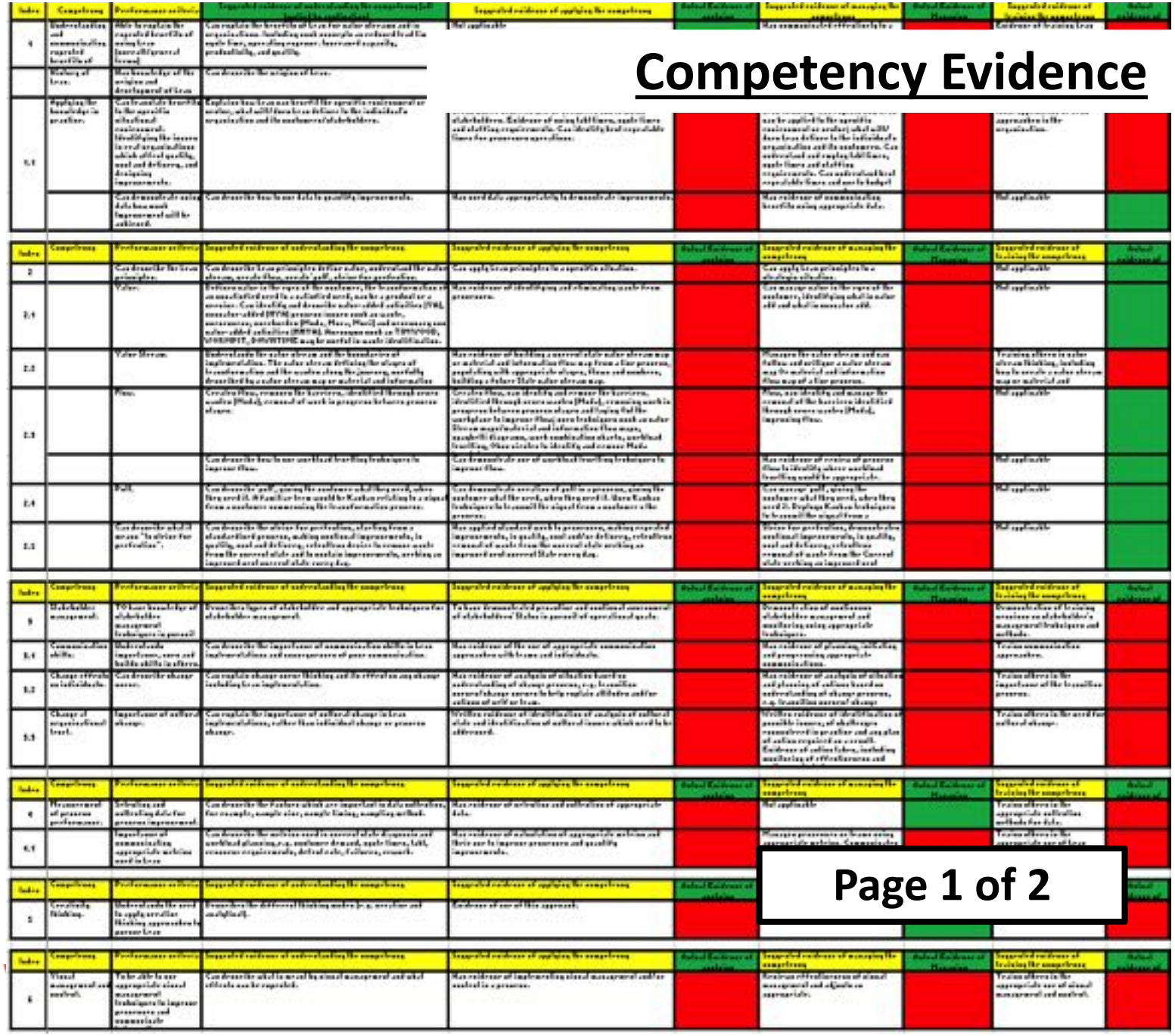
Progress to date

LEGEND	
Status No.	
Allocated	1
Started	2
Reviewed	3
Complete	4
Strong Impact	p
Partial Impact	t

	Project ref.	Description	Lean Champion	KPI's: Pre-Construction (10% for yr1, 20% for yr3)	Construction (10% for yr1, 20% for yr3)	H&S AFR (5% for yr1, 10% for yr3)	Build Cost (5% for yr1, 10% for yr3)	Customer Satisfaction (On Completion) (2% for yr1, 4% for yr3)	Customer Satisfaction (After Defects Period) (5% for yr1, 10% for yr3)	Defects (10% for yr1, 20% for yr3)	Reduce Failure Demand / Free up Time	Progress	Remaining
Improvement Projects	Des1	Design Last Planner (Tracker)	Mike Jeffs	0%								100%	0%
	Des2	Designer Monthly Planner	Mike Jeffs	5%								0%	100%
	Cons1	Weekly Work Planning & PPC	Callum Yeowell		5%		2%					80%	20%
	Cons2	Timber Frame Option Trials	Callum Yeowell		0%		0%					100%	0%
	Cons3	Groundworks Procedure Restructure	Adrian Cocks		1%	1%	1%					0%	100%
	Cons4	On Time Material Procurement	Adrian Cocks & Callum Yeowell		0.5%							10%	90%
	Cons5	Reducing Kitchen Lead Times	Adrian Cocks & Callum Yeowell		0.5%		0.2%					10%	90%
	Cons6	6 Weekly Lookaheads	Callum Yeowell & Adrian Cocks		2%		1%					20%	80%
	Cons7	Jetfloor (New Floor System)	Adrian Cocks		1%		0.2%					5%	95%
	Cost1	New QS Required Info Forms	Shaun Rabey								◆	25%	75%
	Cost2	Reduced no. of Skips	Dan Cole				0.2%					10%	90%
	Cost3	Estimating Make Ready Needs	Darren Hicks								◆	50%	50%
	Cost4	Process Map of Key QS Functions	Shaun Rabey								▭	0%	100%
	Cost5	Estimating Enquiries Standardised	Darren Hicks								◆	50%	50%
	Cost6	General QS Failure Demand Assessment	Dan Cole								▭	10%	90%
	Dfct1	New QA System	Adrian Cocks & Callum Yeowell				0.4%			5%		90%	10%
	H&S1	New Accident & Near Miss Reporting Documents	Callum Yeowell			0%					◆	100%	0%
	H&S2	Standardised H&S Standards	Adrian Cocks			1%						25%	75%
	H&S3	Accidents from 1st Half 2018	Adrian Cocks & John Hutchens			1%							
		Total		5%	10%	3%	5%	0%	0%	5%			
		Remaining Percentage for 1 Year Target		5%	0%	2%	0%	2%	3%	5%			

Training & Communication

Competency Evidence



Page 1 of 2

18 Competencies, 32 sections, 72 sub-sections across Understanding, Applying, Managing & Training.

Competency Evidence

Index	Not started	In progress	SW Review
1			
1a			
1.1			
1.1a			
Index			
2			
2.1			
2.2			
2.3			
2.3.1			
2.4			
2.5			
Index			
3			
3.1			
3.2			
3.3			
Index			
4			
4.1			
Index			
5			
Index			
6			

Index			
7			
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9.1			
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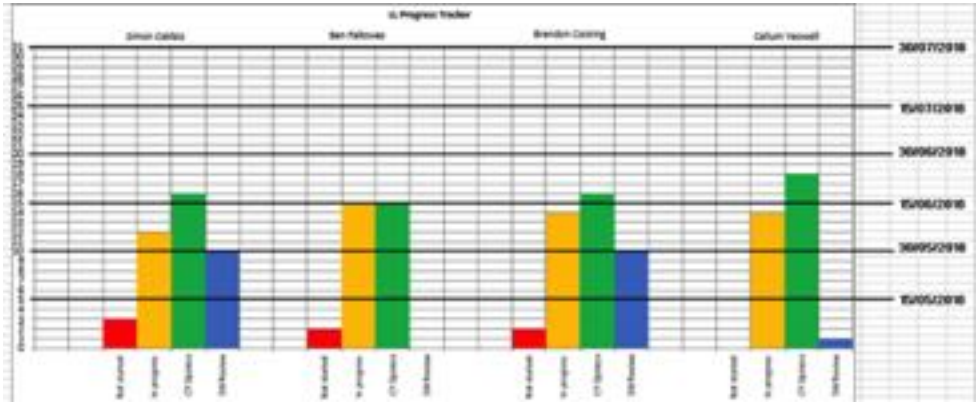
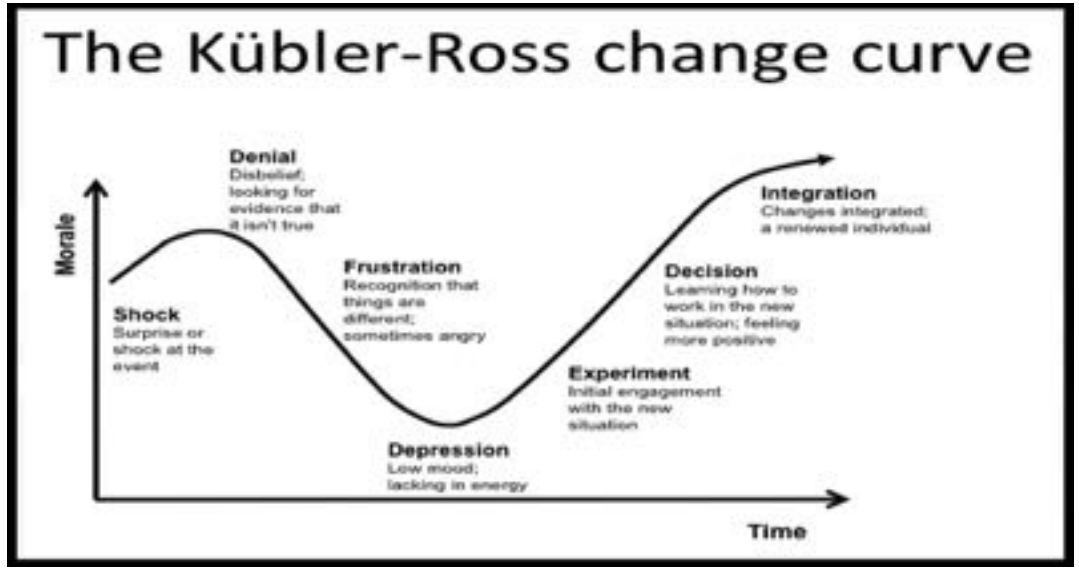
17			
Index			
18			

18 Competencies, 32 sections, 72 sub-sections across Understanding, Applying, Managing & Training.



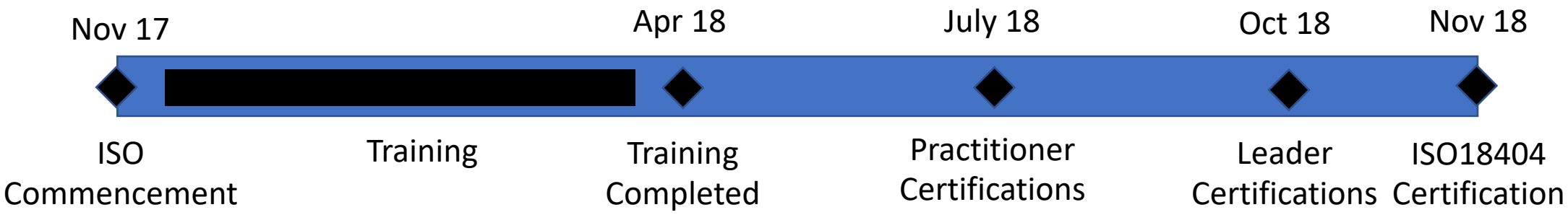
Lean transformation

- Continuous improvement Culture
- Leadership & Ownership
- Relevant & Understandable
- Construction not Manufacturing
- Add value



Timeline

- Awareness Sessions Early 2016
- Trial Projects 2016 – 2017



- Commencement of Improvement Projects & Forums – March 2018
- BSI Scoping Audit – 11/9/18
- BSI Stage 1 Audit – 8/10/18
- BSI Stage 2 Audit – 29/10/18

Summarised Learnings to Date

- Leadership / Team Involvement / Collaboration is essential
- Substantial support and expert guidance
- Challenging existing methods or thinking
- Changing culture
- Data, data, data, The importance of measuring performance and improvements
- You won’t get it right all the time
  - Sustain

Any Questions?

Some examples to date

Single Page Plan

LEGEND		
Status No.		
Allocated	1	
Started	2	
Reviewed	3	
Complete	4	
Strong Impact	p	p
Partial Impact	t	t

Project ref.	Description	Lean Champion	Cons1 - Weekly Work Planning & PPC	Cons6 - 6 Weekly Lookaheads	Cost2 - Reduction of Skip Use	Target Date	Completed Date
			Improvement Projects				
Cons1	Create Template	Callum Yeowell	0%			31/01/2018	
Cons1	Training	Callum Yeowell	20%			01/02/2018	
Cons1	Ongoing 1-1 Support	Adrian, Craig, Steve	20%			To Start 2/2/18	Ongoing
Cons1	Collect Completed Plans	Adrian, Craig, Steve	0%			To Start 2/2/18	Ongoing
Cons1	Collate Data	Callum Yeowell	0%			To Start 2/2/18	Ongoing
Cons1	Run Individual Improvement Project for Issue found on Project 1	Adrian	30%			30/07/2018	
Cons1	Run Individual Improvement Project for Issue found on Project 2	Craig	30%			30/08/2018	
Cons1	Run Individual Improvement Project for Issue found on Project 3	Steve	30%			30/09/2018	

LEGEND		
Status No.		
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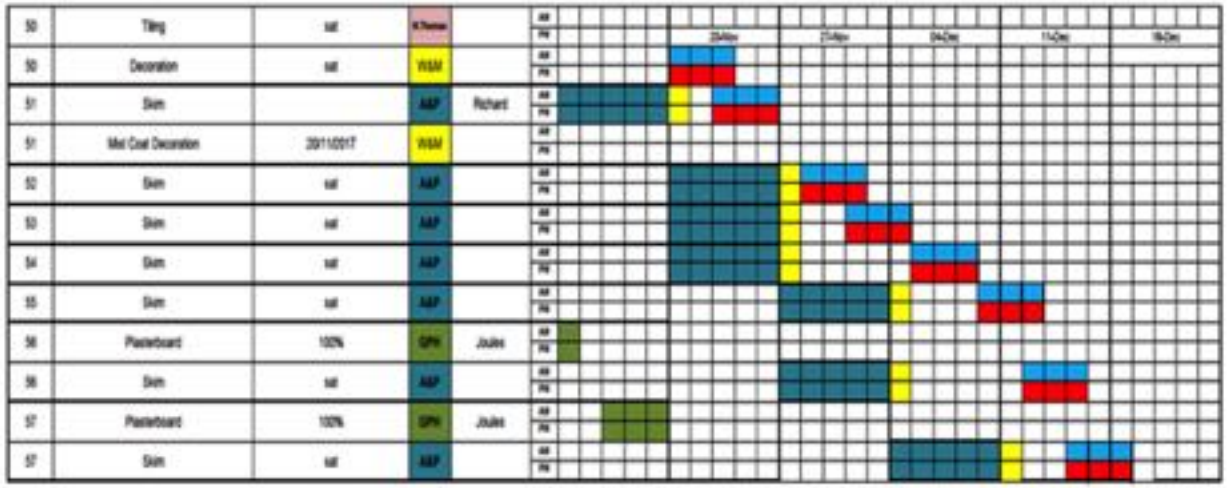
Cons1	Run Individual Improvement Project for Issue found on Project 2	Craig	30%			30/08/2018	
Cons1	Run Individual Improvement Project for Issue found on Project 3	Steve	30%			30/09/2018	
Cons6	Create Template	Callum Yeowell		0%		10/07/2018	04/07/2018
Cons6	Training	Callum Yeowell		40%		25/07/2018	
Cons6	Ongoing 1-1 Support	Adrian, Craig, Steve		30%		To Start 26/7/18	
Cons6	Collect Completed Plans	Adrian, Craig, Steve		0%		To Start 26/7/18	
Cons6	Collate Feedback	Callum Yeowell		0%		10/10/2018	
Cons6	Run Individual Improvement Project for any further required improvements to 6 Weekly Plans - no.1	Adrian		10%		30/10/2018	
Cons6	Run Individual Improvement Project for any further required improvements to 6 Weekly Plans - no.2	Craig		10%		30/11/2018	
Cons6	Run Individual Improvement Project for any further required improvements to 6 Weekly Plans - no.3	Steve		10%		20/12/2018	
Cost2	Collect Historical Data	Callum			0%		
Cost2	Run Workshop with Supervisors & Workforce on how to reduce quantity of waste	Callum			0%		
Cost2	Run Workshop with Site Managers on how to reduce quantity of waste	Steve			0%		
Cost2	Collect Responses for Largest Causing Factors	Steve			0%		
Cost2	Run Improvement Project - no.1	Steve			25%		
Cost2	Run Improvement Project - no.2	Steve			25%		
Cost2	Run Improvement Project - no.3	Craig			25%		
Cost2	Run Improvement Project - no.4	Adrian			25%		

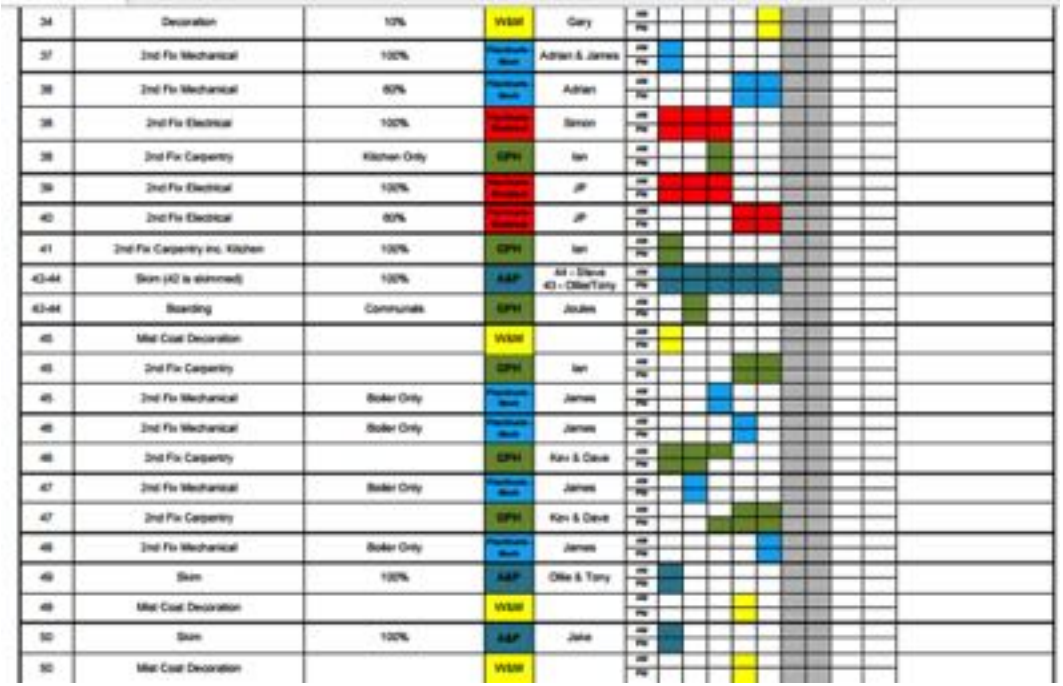
G&G Lean Efforts

6 Weekly planning



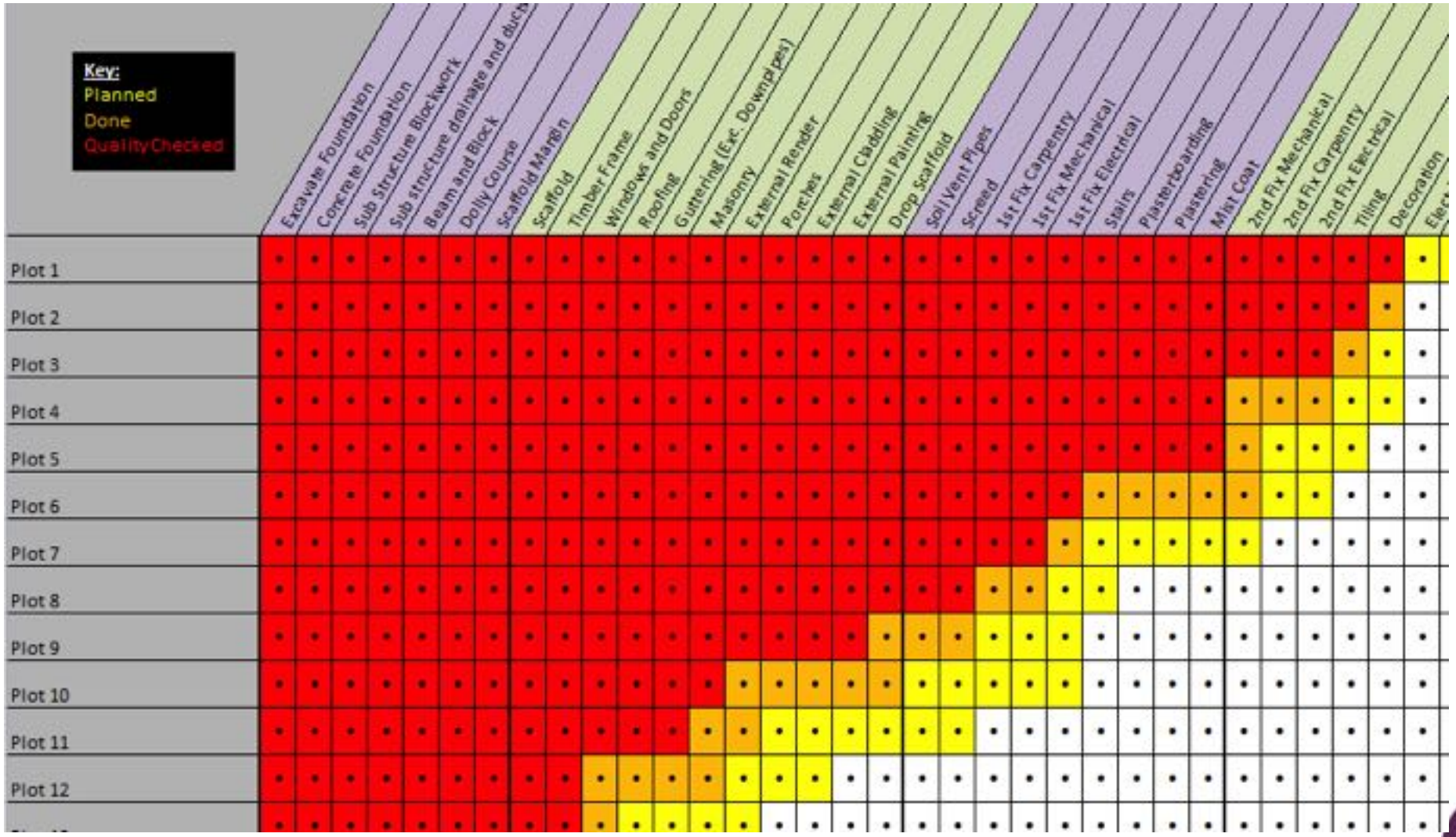
50	Tiling	tat	K Thomas		
50	Decoration	tat	WSM		
51	Skim		A&P	Richard	
51	Mist Coat Decoration	20/11/2017	WSM		
52	Skim	tat	A&P		
53	Skim	tat	A&P		
54	Skim	tat	A&P		
55	Skim	tat	A&P		
56	Plasterboard	100%	GPH	Joules	
56	Skim	tat	A&P		
57	Plasterboard	100%	GPH	Joules	
57	Skim	tat	A&P		

Weekly planning



34	Decoration	10%	WSM	Gary	
37	2nd Fix Mechanical	100%	[illegible]	Adrian & James	
38	2nd Fix Mechanical	60%	[illegible]	Adrian	
38	2nd Fix Electrical	100%	[illegible]	Simon	
38	2nd Fix Carpentry	Kitchen Only	GPH	Ian	
39	2nd Fix Electrical	100%	[illegible]	JP	
40	2nd Fix Electrical	60%	[illegible]	JP	
41	2nd Fix Carpentry inc. Kitchen	100%	GPH	Ian	
43-44	Skim (42 is skimmed)	100%	A&P	44 - Steve 43 - Ollie/Tony	
43-44	Boarding	Communals	GPH	Joules	
45	Mist Coat Decoration		WSM		
45	2nd Fix Carpentry		GPH	Ian	
45	2nd Fix Mechanical	Boiler Only	[illegible]	James	
46	2nd Fix Mechanical	Boiler Only	[illegible]	James	
46	2nd Fix Carpentry		GPH	Kev & Dave	
47	2nd Fix Mechanical	Boiler Only	[illegible]	James	
47	2nd Fix Carpentry		GPH	Kev & Dave	
48	2nd Fix Mechanical	Boiler Only	[illegible]	James	
49	Skim	100%	A&P	Ollie & Tony	
49	Mist Coat Decoration		WSM		
50	Skim	100%	A&P	Jake	
50	Mist Coat Decoration		WSM		

G&G Lean Efforts – Planning Matrix



G&G Lean Efforts – Quality Assurance System

Brickwork, Blockwork & Stonework
G&G QA E09

Contract:		Contract No:		Date:	
Subcontractor:				Plot Number	

Quality Checks		Y/N or N/A	Checked By	Date
1. Face bricks/blocks are clean and undamaged				
2. The following are within specification:	Plan dimensions			
	Gauging			
	Straightness			
	Roughness			
	Overall thickness			
	Level of bed joints			
	Overhang for Render where applicable			
3. The following are correct and in place:	DPC			
	Cavity ties			
	Padstones			
	Lintels			
	Cavity insulation			
	Weep vents (location and depth)			
	Meter box openings			
	Ties for porches etc.			
	Air bricks			
	Movement joints			
	Leadwork			
4. Are cavity's clear from debris				
5. The masonry is correctly pointed and finished				
6. Impervious protection against rain and frost is provided				
7. Scaffold & area Left Clean & Tidy				

Additional Comments:

By signing the below you confirm that the element of works are complete in accordance with the contract documents & materials have been installed in accordance with the manufacturers guidance.

Cleaning up your waste generated from these works after sign off may be charged against your sub-contract account. Please ensure you clean up to avoid this!

Site Manager		Signed	
Sub-Contractor Representative		Signed	

Gilbert & Goode Ltd
E09 Rev A 2017

Brickwork, Blockwork & Stonework
G&G QA E09

Quality Check no.	Expected Standard	Not Accepted
2		
1, 2 & 5		
3 & 4		
3		

Gilbert & Goode Ltd
E09 Rev A 2017

		Task	Trevassack Hill - Hayle			Praze-an-Beeble			New Mills Lane, Kenwyn			Vicarage Hill, Mevagissey			St Newlyn East Ph2			Tyringham Rd, Lelant			Morrab Rd, Penzance			Scredda 3		
		Job Number				OMSC0029			OMSC0021			OMSC0028			OCEA0216			OMSC0038			OMSC0037					
			Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks	Complete Status	Actual Completion	Delay wks
Appraisal	2 Months	Job set up	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		
		Initial Site Appraisal	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		
		Check Title Plan			0	Y		1	Y		0			0	Y		0	Y		1	Y		0			
		Check Current Planning Docs	Y		10	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Design Brief / Scheme Requirements	Y		0	Y		2	Y		0	Y		11	Y		20	U			U					
		Extract Feasibility Layouts	Y		0	Y		2	Y		0	Y		21	Y		25	Y		0	Y		0			
		Carry Out Development Appraisal	Y		0	Y		2	Y		0	Y		0	Y		0	Y		0	Y		0			
		Extract Solicitors	Y		0	Y		0	Y		0	Y		0				Y		0	Y		0			
		Identify Grant Availability	Y		0	Y		0	N/A		0	Y		0	Y		0	Y		0	N/A		0			
		Identify Risks and Approvals	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Obtain Land Valuation	Y		0	Y		0	Y		0	Y		0	Y		2	Y		0	Y		0			
		Initial Utilities Search	N/A		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Agree HoT's	Y		11	Y		5	Y		0	Y		5	Y		0	Y		5	Y		0			
		Agree Option	Y		0	Y		5	Y		0	U		5	Y		0	Y		5	N/A		0			
		Agree Land Purchase	Y		20	Y		5	Y		0	N/A		5	Y		5	Y		5	Y		0			
		Target Completion Date	30/08/2017			25/11/2016			10/11/2017			20/06/2016			05/03/2016			26/02/2016								
		Actual Completion Date	26/04/2018			25/11/2017			13/02/2017			10/11/2016			14/06/2017			26/04/2016			15/03/2016					
		Comments	Delays in JV process									Treyarnon Hill projected														
Design Lead Time KPI 1A	2 Months	Appoint Architect	Y		12	Y		0	Y		0	Y		0	Y		0	U			U					
		Appoint Engineer	Y		14	Y		0	Y		0	Y		0	Y		0	U			U					
		Appoint Landscape Architect	N/A		10	Y		0	Y		0	Y		0	N/A		7	N/A		0	N/A		0			
		Appoint Planning Consultant	N/A		0	N/A		0	Y		0	Y		0	N/A		1	N/A		0	N/A		0			
		Appoint Principle Designer	Y		12	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Engage Parish	Y		0	Y		2	Y		0	Y		0	Y		1	N/A		0	N/A		0			
		Affordable Housing Need	Y		0	Y		0	N/A		0	Y		0	Y		0	N/A		0	N/A		0			
		Concept Design Signed Off	Y		0	Y		1	Y		0	Y		0	N/A		15	N/A		0	Y		0			
		Submit Pre-App	N/A		0	Y		0	Y		16	Y		0	Y		16	N/A		0	Y		0	Y		1
		Target Completion Date	30/8/17			Done Prior			13/8/17						1/10/17			26/4/16			17/4/16					
		Actual Completion Date	13/3/18			Done Prior			10/11/17			5/10/17			24/01/2018						17/04/2018					
		Comments	Delayed due to JV in place						Delay due to advice not to submit from Paul Robinson																	
	6.5 Months	Review Pre-App Advice	Y		0	Y		0	Y		0	Y		0	Y		2	Y		0	Y		0			
		Issue Design Spec	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Utilities Search	Y		0	Y		0	Y		0	Y		0	Y		0	Y		4	Y		0			
		Topo Survey	Y		0	Y		0	Y		0	Y		0	Y		0	Y		4	Y		0			
		Detailed Utilities Site Survey	N/A		0	Y		0	Y		0	Y		0	Y		1	Y		4	U		0			
		Agree Final Housing Mix	Y		20	Y		2	Y		0	Y	22/05/2018	21	Y		0	Y		0	Y		0			
		Agree House Type Design	U		20	Y		2	Y		2	Y		5	Y		1	Y		0	Y		0			
		Developed Architectural Layout	U		20	Y		4	U		0	U			Y		1	U			U					
		Ground Investigation Ph1 Desk Study	Y		0	Y		0	Y		0	Y		0	Y		0	Y		1	Y		0			
		Mining Search	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Ecology Report	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Utilities Survey	Y		0	Y		0	Y		21	Y		0	Y		21	Y		0	Y		0			
		Archaeology Report & Survey	Y		0	Y		5	N/A		0	Y		0	Y		1	Y		0	Y		0			
		Arboriculture Report	N/A		0	N/A		0	N/A		0	Y		0	N/A		0	N/A		0	Y		0			
		GI Phase 2	Y		20	Y		0	Y		0	Y		0	Y		0	Y		0	Y		0			
		Appoint Specialist Consultants	N/A		0	N/A		0	Y		0	N/A		0	Y		0	Y		0	U					
		Developed Engineering Layout	U			Y		0	Y		2	U			Y		1	U			U					
		Flood Risk Assessment	U			Y		0	Y		0	U			Y		0	U			U					
		Developed Landscape Layout	U			Y		0	N/A		0	N/A		0	N/A		2	N/A		0	Y		0			
		Landscape Visual Impact Assessment	U			Y		4	Y		4	U			N/A		0	N/A		0	Y		0			
		Agricultural Land Assessment	N/A		0	N/A		0	N/A		0	N/A		0	N/A		0	N/A		0	Y		0			
		Asbestos Survey				N/A		0	N/A		0				N/A		0	N/A		0	Y		0			
		Party Wall Surveyor	N/A		0	N/A		0	N/A		0	N/A		0	N/A		0	N/A		0	Y		0			
		Footway Check	Y		0	N/A		0	Y		0	N/A		0	Y		0	N/A		0	Y		0			
		Soakaway Tests	U	01/06/2018	0	Y		0	Y		0	Y		0	Y		0	Y		2	Y		0			
		Material Materials Schedule				Y		2	Y		0	U			Y		0									
		RTMP Traffic Plan	Y		0	N/A		0	N/A		0	N/A		0	N/A		0	Y		0	N/A		0			
		Drainage Maintenance Plan				Y		0			0										N/A		0			
		Design Sign Off				Y		0	Y		2				Y		2				N/A					
		Obtain Board Approval				Y		0	Y		0				Y		0	Y		0	Y		0			
		Target Completion Date	30/05/2018			27/02/2018			14/03/2018			21/05/2018			01/05/2018			04/04/2018			14/04/2018					
		Actual Completion Date				26/08/2018			14/05/2018						18/05/2018											
		Comments							Delay due to Paul Robinson not approving Lewis'																	
Planning	4 Months	Submit Planning (Full / OL)	Y		0	Y	16/03/2018	0	Y	11/05/2018	0				Y	18/05/2018	0	Y		0	Y		0			
		Agree PPA (if required)	Y		0	N/A		0	N/A						N/A		0	Y		0	Y		0			
		Prepare s106 for S106	Y		0	Y		0	N/A		0				Y		0	Y		0	Y		0			
		Prepare DAS (if req)	N/A		0													Y		0	Y		0			
		Liaise with stake holders	Y		0	U												Y		0	Y		0			
		Sign and Agree S106	U		20													Y		0	Y		0			
		Obtain Pre- Com (Res Mat) Conditions	Y		0													Y		0	Y		0			
		Obtain Decision Notice																Y		0	Y		0			
		Produce Pre-Construction Information Pack																U			U					
		Target Completion Date	06/06/2018			17/07/2018			14/08/2018						01/08/2018			Done Prior			Done Prior					
		Actual Completion Date																Done Prior			Done Prior					
		Comments																								
Design Lead Time KPI 1B	6 Months	Compile Pre-Com (Res Mat). Information																U			U					
		Architectural Building Regs drawings																								
		Appoint M&E Designer																U			U					
		M&E Designs																								
		Detailed S38 Design Works																								
		Detailed S104 Design Works																								
		Appoint Building Control																U			U					
		Building Regs Drawings																U			U					
		Submit S38 application																								
		Submit S104 application																								
		Apply for Premier Warranty Cover																								
		Apply for Bonds																								
		Produce Construction Programme																			Y		0			
		Make SWW Application																U			U					
		Make WPD Application																U								
		Make NRGE Application																								
		Construction Issue Drawings																								
		Finalise Project ER's and Spec																U			U					
		Finalise Build Budget																								
		Enter Contract for Affordable Units																U			N/A		0			
		Pre-Com Decision Notice																								
		Target Completion Date	10/10/2018			05/12/2018									14/04/2018			16/07/2018			14/04/2018					
		Actual Completion Date																								
		Comments																								

Project Progress Tracker

Gilbert & Goode CONSTRUCTION

Lelant

Project Check List

Legend	Complete	Ref Key
	Underway	0-0.9= Pre-Planning
	Required	1-1.9 = Design Dev
	Overdue	2-2.9= Utilties / Sectional

Ref	Stage	Code	Description of task	Sent/Applied	Action Required
0.9	Planning		Submit Pre-App	n/a	
0.9	Planning		Pre-App Advice	n/a	
1	Design Development	Des	A-Site Set Up	Complete	
1	Programme	Pro	Contract Programme	n/a	MJ and CK to resolve
1	Appoint	App	Appoint Landscape designer	Complete	
1	Appoint	App	Appoint M&E designer	Underway	PL is pursuing this with a joint quote.
1.1	Design Development		G&G Specification	Underway	CR and CL are working this up as speak
1.1	Design Development		Client / Ocean Specification	Required	
1.4	Planning	Plan	Traffic Road Order	Required	
1.4	Design Development		Architectural Design	Underway	
1.4	Design Development		Engineering Design	Underway	
1.5	Design Development		Specialised Engineering Designs	Underway	
1.6	Design Development		Stake Holder Review of Design	Complete	
1.6	CDM		Design Phase H&S Plan	Underway	Issued
1.7	Planning		Submit Planning Application	Complete	
1.8	Planning	Plan	Planning decision notice received	Complete	
1.8	Planning	Plan	Planning Conditions	Required	RM cndt 5 Bus Shelter, OP, cndt 7, Pre-com Construction plan , cndt 10 Pre-Occ Surface Water design.
1.9	Appoint	App	Appoint Build Control	Underway	MJ to send out LABC enquiry
1.9	Planning	Plan	Discharge Planning Pre-Com Conditions	Required	Pre-Coms done, but other conditions still outstanding
1.9	Planning	Plan	Submit and discharge NMA for road layout	Required	changes.
1.9	Design Development	Premier	Engage Building Warranty Provider	Underway	confirmation and invoice
1.9	Design Development	PD	Preconstruction Information Pack	Underway	Issued
2.1	Sections	S104	Section 104 Sewer Adoption Application	Required	MBA working on drawings due 9th July
2.1	Sections	S38	Section 38 Road Adoption Application	n/a	Road will remain private
2.1	Sections	S185	Section 185 Clean Water diversion Application	n/a	

wsp

tb

O/M finishes spec

APPENDIX C – STANDARD

CARPENTRY

	Skirting Chamfered and Rounded - Timber 14mm x 95mm	Softwood or MDF	N/A	N/A	
	Architrave 14mm x 44mm Chamfered and Rounded - Timber	Softwood or MDF	N/A	N/A	
	Cill Boards MDF Bull Nose - mechanically fixed	MDF	N/A	Primed	
	Loft Access Fitted to Landing area insulated plastic hinged hatch min 562 x 662	Hinged loft access hatch or similar	Timloc ref 1169	White	
	Door Stops Where possible skirting mounted, otherwise floor mounted	Stainless steel tubular if floor fixed	Access hardware x2830 Floor Mounted. X2875 Skirting Mounted	N/A	

WC, Bathrooms & En Suites

Item	Description	Range	Manufacturer	Colour	Picture
	Lock Turn & Release	Dual finish Chrome	Access hardware C9008	Chrome	

Thank You!!