



Lean Construction Institute UK



# Lean logistics, lessons learnt from Japan

Adrian Blumenthal,  
Special Projects Director, Constructing Excellence





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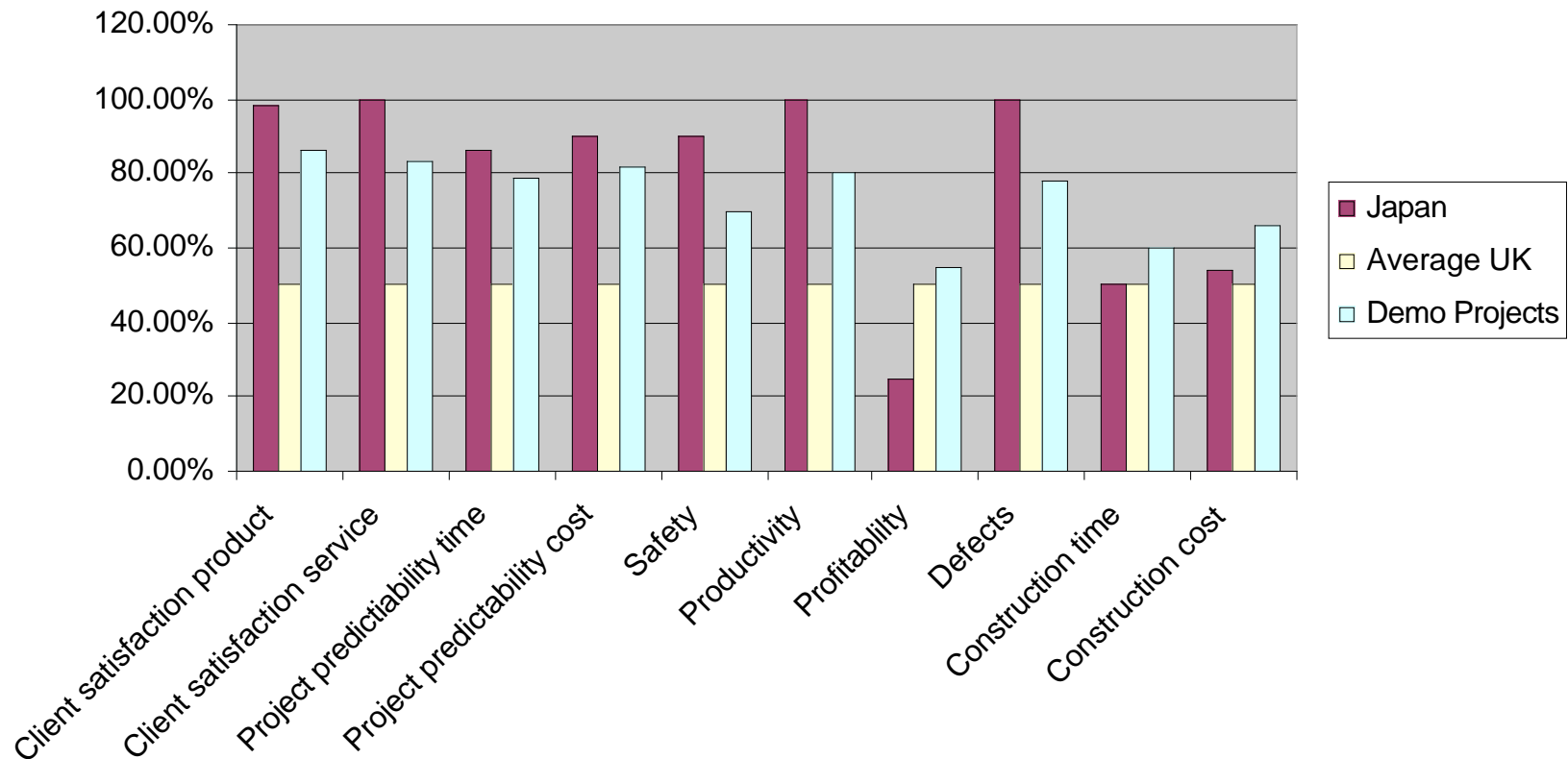




# What we found out from a product and service view

Scoping Study Results, Japanese Corporations, Compared to UK Construction Industry  
KPI's: Average and Demo Projects

Benchmark Score in relation to UK construction industry





## Japan/United Kingdom – Economic Comparisons

Comparison Economics, Building- 29/02/08 (G and T )	Japan	United Kingdom
Labour All In Rate (gross cost of employment- unskilled £PH	11.62	10.10
As above- Semi Skilled £PH	14.16	11.07
As above – Skilled £PH	17.96	13.50
City centre A/C offices £M2	1081	1500
Factories warehouses industrial £M2	853	550
Shopping Centres £MS	880	1400
Hotels (hi quality) £MS	2167	2300





## Japan/United Kingdom – Economic Comparisons

Comparison Economics, Building- 29/02/08 (G and T )	Japan	United Kingdom
Aggregate all grades £tonne	10	29
Sand Coarse £tonne	12	20
Plaster £tonne	203	235
Carcassing Timber £Tonne	237	310
Common Bricks 100mm £/1000	335	230
Concrete blocks £M2	6	11
Glass 6 mm £M2	8	22







## Some more- overall 28% cheaper

Rebar/tonne supplied to site £ tonne	322	650
Structural steel £tonne	670	750
Cement £tonne	38	105
Concrete 20N/mm2 £M3	54	85





# Simple Processes:

- The Key is Logistics, information, materials and people first part of the plan
- Everyone participates in Quality Management it's the constitution
- Use PDCA cycle
- Use data and facts as the basis for planning
- Prefabricate all that you can
- Japanese process for construction: Plan, study, design, construct- what's ours?
- Plan for early Finish!!!





# Logistics of information and People

## The Quality Board:







# Logistics of People and Info

- Achieving zero defects on all projects (visual management) and handover process done publicly
- All problems dealt with immediately
- 7.45am presentation on daily plan to all members of the team
- 10am meetings every day to discuss next day
- Safety meetings every day to review “hot spots” called KY!!!!
- New starters all have health check

**Blood pressure monitor**





## Logistics of Materials On Site Prefabrication



Floor Slab and Services  
prefabrication yard



Floor Prefab in Place





# Logistics of people and materials:

## Hoist on inside of building, computers log and charge all usage







# Waste material and environment:

## When it's combined it's waste, when separated it's a resource, Japanese wide Policy

4 R's

What's this concept of Skips!





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# Logistics of information: Quality in all that we do; Promotes Health and Safety







# Pragmatic View for Health and Safety



Pragmatic approach to safety





# Quality checking and progress monitoring



Quality:  
photographic  
logs and quality





# Quality board: photograph everything

Project:		
Trade:		
Date:		
Floor:	Area:	Drawing ref:
Checked by:		
Approved by:		Date:
Comments:		





# Design and Construction

## Quality

Unification of the responsibility for the guarantee of quality OFD

Production techniques used for design

Early feed forward of design to Construction

Feed back of Construction technology to design

## Cost

Effective VE by scrupulous information exchange

## Delivery

Shortening of construction time through collaboration

## Safety and Environment

Tackling the technology that considers Safety and Environment from the design Stage

