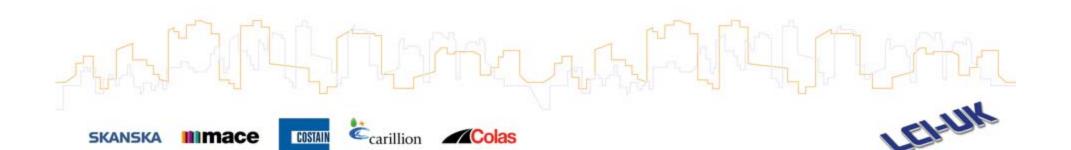




Lean Implementation within VINCI Construction

Lessons Learnt and Future Perspectives

David Roberts, VINCI Construction UK



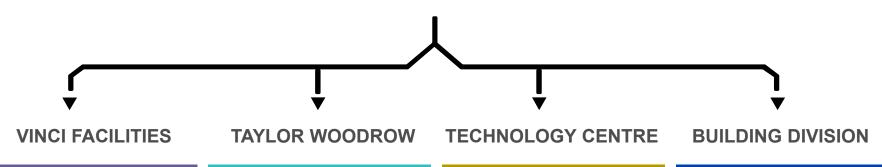


Who we are!



VINCI Construction UK is a national construction and facilities company. We are part of VINCI, a world leader in concessions and construction. We design, build, finance and manage facilities which improve everyday life. These include the systems that transport us, the buildings in which we live and work, the water, energy and communication networks that build our communities.

VINCI Construction UK

























































Lean strategy within VINCI Construction UK



Strategy

Communication and Collaboration Continuous Improvement

Undertake Pilot Projects

- Building Confidence
- Prove benefits
- People aware of Lean

Engage business

- Senior commitment
- Standardised approach
- True north defined
- Clear objectives
- Policy defined
- Owner

Commit business

- People trained
- Business awake
- Value streams identified
- Master schedule developed
- Lean leadership from within
- Working with suppliers

Business involved

- Numerous improvements underway
- Managed by project teams
- Leading the way in construction
- VINCI Construction UK has lean eyes
- Suppliers on board

Self managed

- Cyclic event of previous steps
- Standard way of thinking
- Everyone is owner

Engagement

Lean culture developed

Engaged ——

→ Culture changed

Sustained business and benefits















Lean strategy in VINCI Construction UK



Current status at VCUK

- Lean Strategy published in VINCI Construction UK
- Lean Implementation
 Plan published
- Regular Lean articles
- Lean basic training and knowledge published
- Lean share point site operational
- Lean maturity assessments taking place
- Lean improvement projects in place
- Knowledge transfer sheets available

2016Continual Improvement

2011
Stand alone
Projects in
VINCI Facilities

2015 Embedded within our culture Lean is in VINCI Facilities,
Taylor Woodrow Civil
Engineering, IT,
Technology Centre and
Building Division

2013
Lean programme commences in Taylor Woodrow

2014 Doing it

2014
Lean
training and
coaching









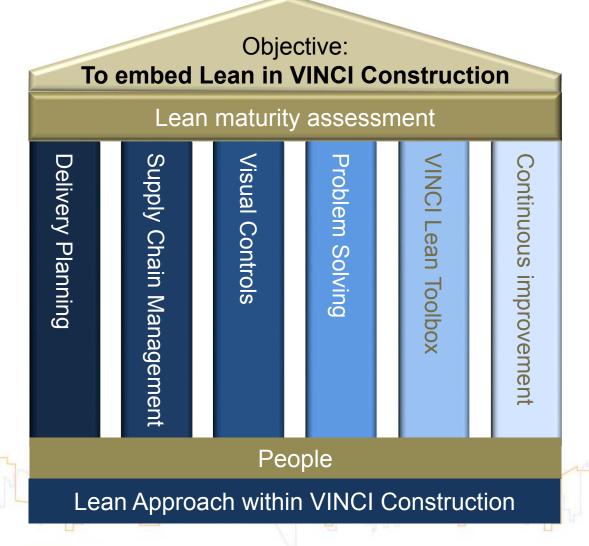






We have a developed framework



















So what's our approach? - Option 1



- Dependant on the agreement from the senior team meeting
- Involvement of the project team
- Resource decisions

Improvement phase

Dependant on plan

 Meeting with the Senior team to agree diagnostic findings and agree the Improvement plan and timescales

Decision point
Go/No Go

- On site visit
- Process Analysis
- Understanding of the measures
- Interviews with nominated key people
- Data capture
- · Review of potential benefits
- Production of report in slide format

Diagnostic Phase

Typically 5 days

- Introduction to Lean
- Meet the team
- Understanding the site and operations
- Agreement on the scope of the diagnostic
- Understanding of the business measures

Initial site visit

Typically 1-2 days

Agree dates for diagnostic











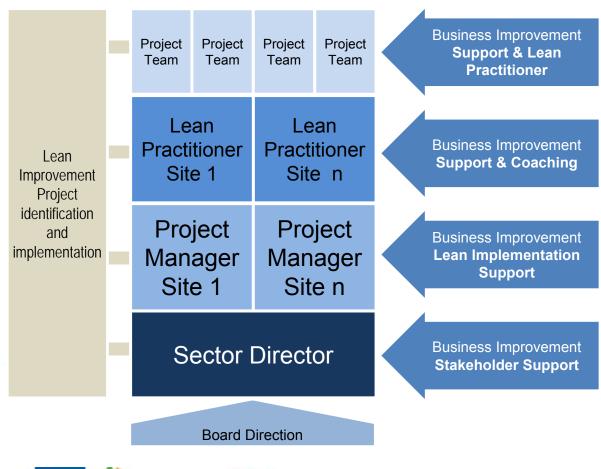




So what's our approach? - Option 2



We have trained **21** Lean Practitioners that cover **13** project sites and **3** business functions driving Lean Improvement projects and training site construction teams in the application of Lean Tools and Techniques.



















So what's our approach? - Option 3



Due to the success of the programme projects just want it!

















Results so far!



more visible around the business

- Well developed in Facilities and TW Civils,
- · Developing programme in Building

The Lean Practitioner role is established and 21 people trained in Lean and undertaking projects worth potentially £1.35M of savings

TWCE Senior Managers

lean awareness,

Project Directors trained,
focussed training is ongoing for site operatives
for an awareness of Lean

VINCI Facilities **Savings of £1m** though Lean
improvement projects

Overall baseline for Lean Maturity Assessments established and is part of regular project reporting

It's an **important part** of the training for all site management teams. This programme is called **Orchestra**















Results so far!



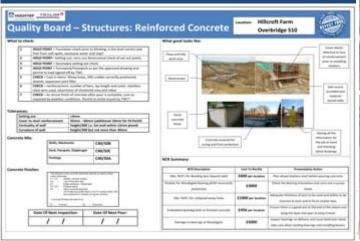






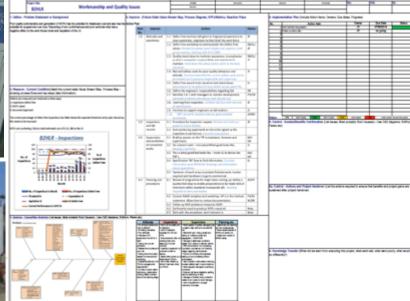


- Visual management for Quality
- Focal point for Quality briefings
- Information station





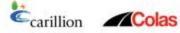


















Excavation Lean Improvement Project

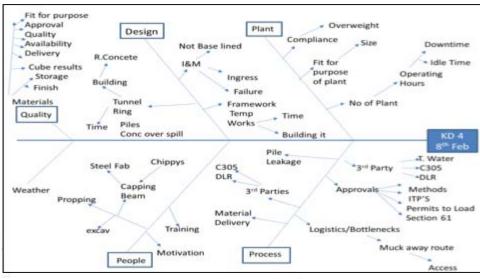


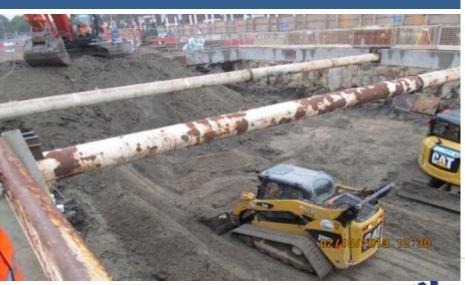


Lean Improvement Projects:

- Problem solving techniques
- Lean meetings
- Close coupling of excavation vehicles
- Process mapping
- · 3D Modelling of reinforcement bar fitting
- Quality benchmarks for concrete works

Savings of 19 Days enabling £150k achieved

















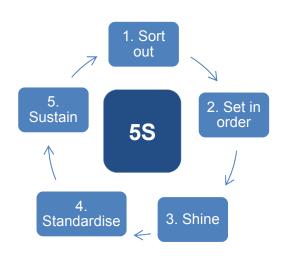


Lean in VINCI Facilities









Ideas & Suggestion Boards DELIVERY FACILITIES CUSTOMER PEOPLE Your Ideas Count! SHARE YOUR SUCCESS

Teaching the 7 wastes

- **Transport**
- Inventory
- **Motion**
- **Waiting**
- **Over Production**
- **Over Processing**
- **D**efects

Lean Management Walks













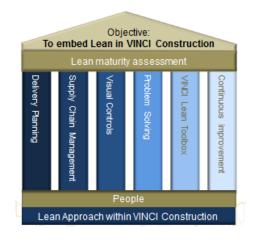


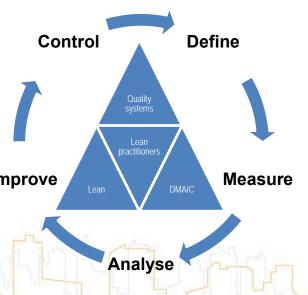


Lean – next steps in VINCI Construction UK



- More projects for Lean Improvement
- Further training for the Lean Practitioner on projects
- Lean Maturity Audit on all VCUK projects
- Introduce Lean into the "front end elements"
 - The Design and procurement stages of Construction
- Lean principles are being implemented Improve
 as part of an improvement project
 concerning Information Management



















Lessons learnt



- Top down commitment is key hence the continuous engagement of the stakeholders, publication of Lean news, success stories and benefits
- "It won't work here!" is a saying that is continually being heard in nearly all workshops continued reinforcement of successful Lean Construction examples and the modification of traditional Lean techniques to suit Construction
- Identification and realisation of benefits is hard When writing the project charter business benefits are identified and quantified, they are signed off by the sponsor and tracked via a monthly tracker by the Lean Practitioner.
- Need to amend the traditional lean techniques to suit construction Set up reduction is now a "readiness review" as an example.
- No Lean terminology used in the workshops Plain English used resulting in no confusion















Future perspectives



- Lean linked to Agile development What lessons can be learnt from the Agile methodology and can these be applied to Construction?
- Everyone to think Lean including our clients
- Lean to be part of our tenders, resulting in Faster Builds and Lower Cost
- Further training involving our clients and suppliers

