



Lean Construction School Train the Facilitator Workshop

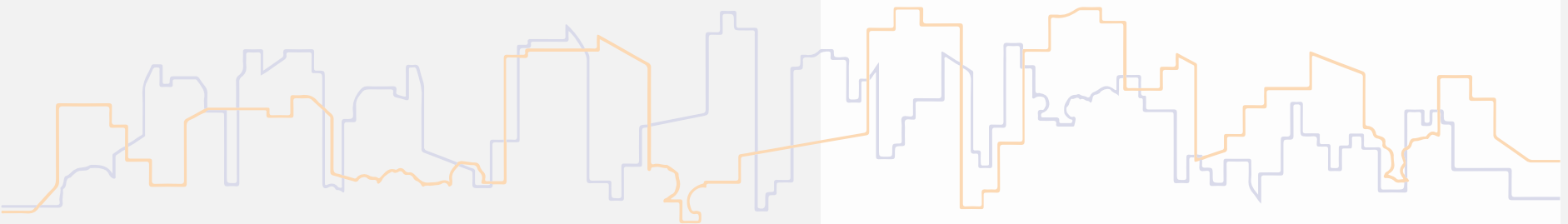
Managing Improvement Projects

Host Partner:

Project:

Location:

Date:



- Welcome and Introductions
- Icebreaker: Questions
- How to identify, define and implement Lean improvement projects
 - Identifying and selecting opportunities for Lean
 - Engaging key stakeholders and influencing people
 - Structuring the implementation of improvement work
 - Reporting on progress
- Exercise
- Reflection and wrap up



- Introduce yourself
 - Your name
 - Your role
 - What experience of Lean you've had
 - Any ideas for Lean improvement projects



- ... to provide training on:
 - how to identify and select opportunities for Lean improvement;
 - how to engage key stakeholders and communicate the benefits of Lean to make it happen;
 - how to structure the implementation of improvement projects; and
 - how report on progress
- By the end of the workshop you should feel more confident and able to run your own Lean improvement projects.



- From the Introduction to Lean workshop, what stood out to you as techniques you would like to use first in your future Lean improvement opportunities?
- What experiences do you have of applying Lean techniques?
- What experiences do you have of identifying and selecting opportunities for Lean improvement projects?
- Who would you see as influential stakeholders that could help you with your Lean improvement project?
- Have you ever facilitated a session to initiate an improvement? If so, what went well? What didn't go so well?
- What do you think the qualities of a good facilitator should be?
- What do you currently measure to understand how the work you are involved with is delivering the right outcome?
- What experiences do you have in using the measures to initiate improvements?

Introduction Course - Recap

For those who attended the introduction course a reminder of what was covered.

And for those who were not there a brief introduction to some of the tools and techniques discussed.

Lean, what is it and what are its objectives?

A way of thinking to improve processes – a philosophy

A way of doing more, better with less – less human effort, less equipment, less materials, less time and less space

The heart of Lean is to continuously solve problems using - proven methodologies and tools

Customer value

- Identify and specify value from the customer's perspective

Value stream

- Identify and map the value stream of end to end process and eliminate wasteful steps

Flow

- Make value flow by eliminating waste / bottlenecks

Customer pull

- Let the customer pull value by designing process that respond to customer demand

Pursue perfection

- Totally eliminate waste and create a flawless process/service.

There are several key aspects to Lean

The Lean Construction School covers the following seven key Lean methods:

1. 7 wastes
2. 5S workplace organisation
3. Collaborative planning
4. Problem solving and continuous improvement
5. Process / value stream mapping
6. Standardised work
7. Visual management

TIMWOOD

Defects

Not right the first time, repetition or correction of a process



Transportation

Unnecessary movement things (parts or machines) between processes

Inventory

Raw material, work in progress or finished goods which is not having value added to it



Movement

Unnecessary movement of people/items within a process



Overprocessing

Processing beyond the standard required by the customer



Overproduction

To produce sooner, faster or in greater quantities than the customer demands

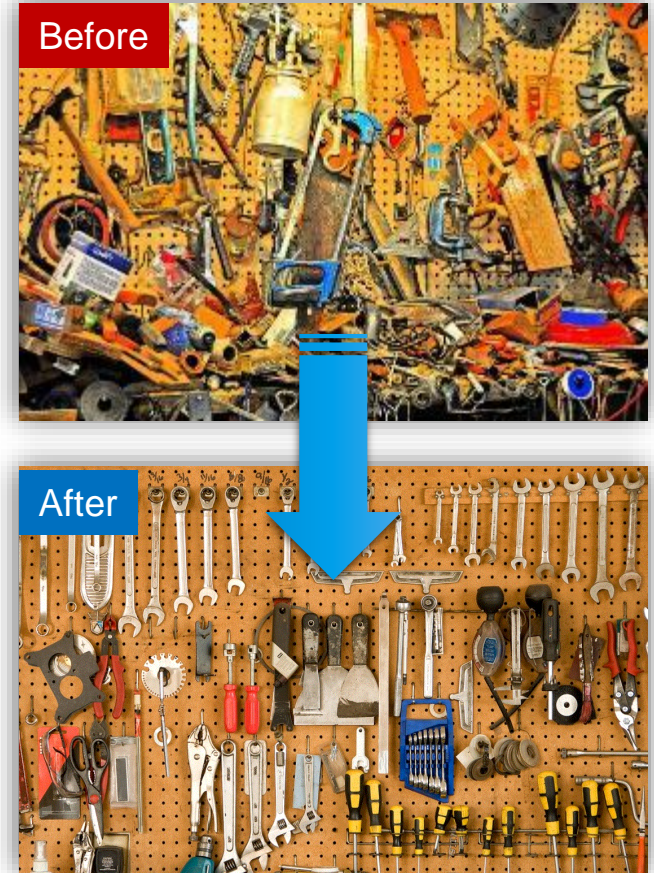


Waiting

People or parts that wait for a work cycle to be complete



2. 5S Workplace organisation



What is it?

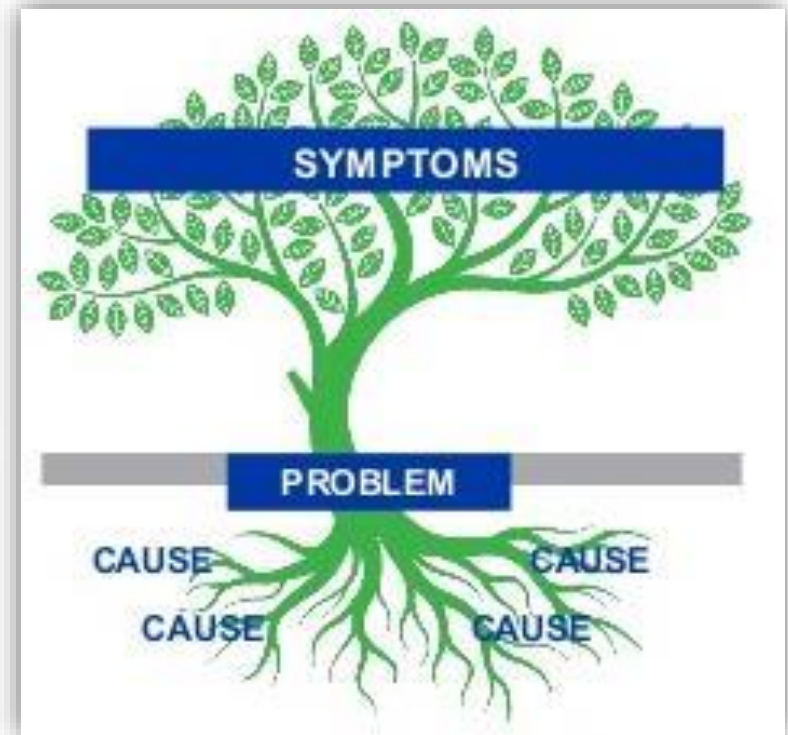
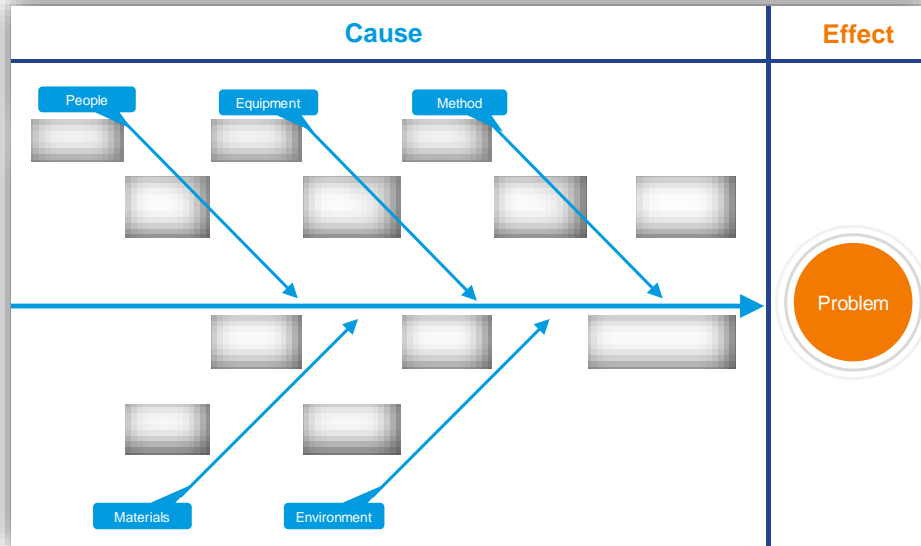
The collaborative planning system consists of a series of tools, approaches and processes that can be easily implemented on projects.

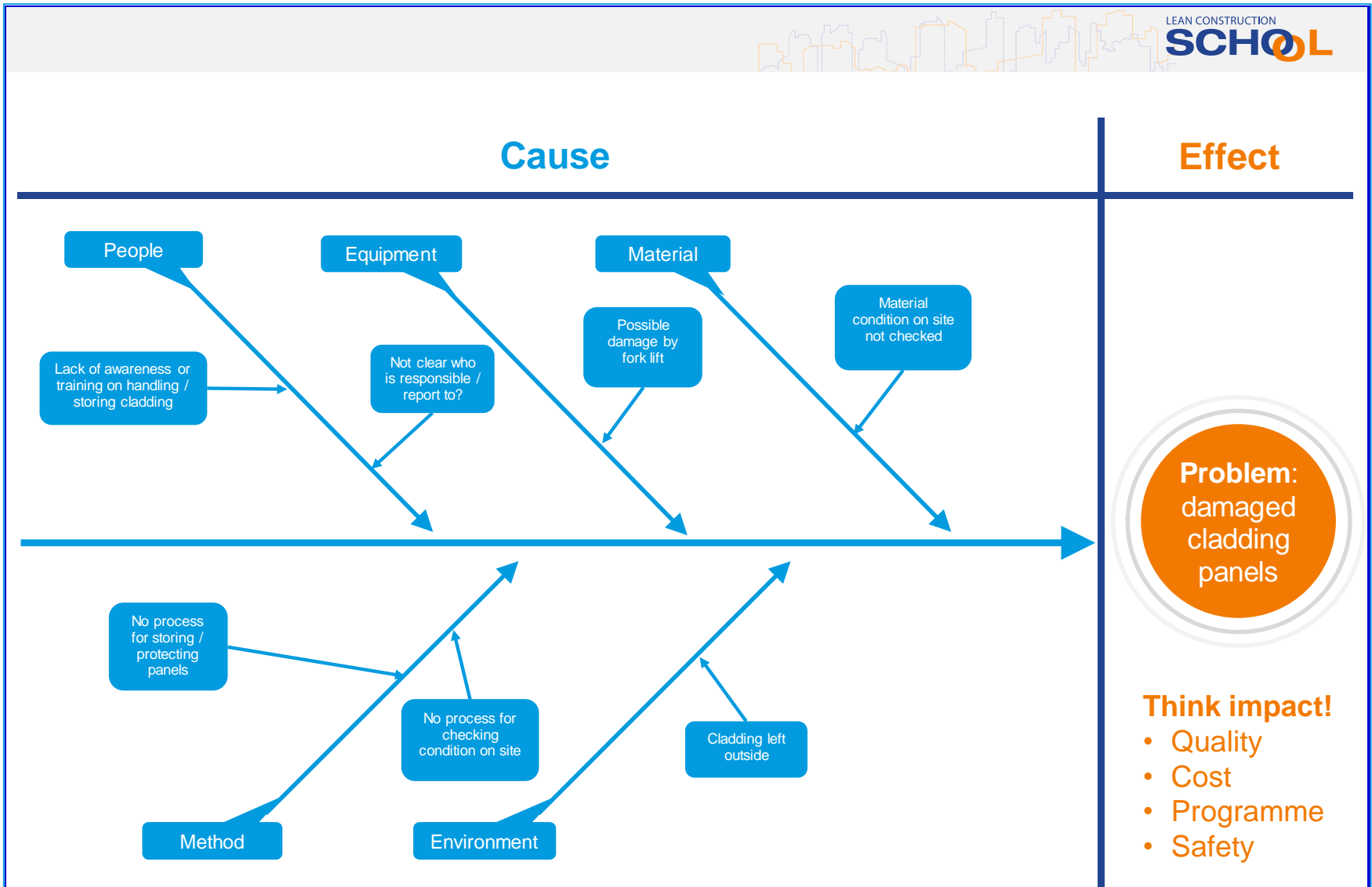
It helps us:

- Deliver better value to the customer to increase satisfaction
- Remove waste from work processes to reduce time and cost
- Increase programme certainty
- Visualise programme
- Align all involved
- Identify opportunities



4. Problem Solving & Continuous Improvement





- A process map is a flowchart of the actual process.
- This needs to be walked through rather than relying on manuals and we need to involve the right stakeholders.
- A process map highlights where non value added problems may exist, e.g. design issues, late procurement of long lead-time items, lack of resources etc
- Can be used for any process type, e.g. fit out, design, commercial etc.



5. Value Stream Mapping

Concrete pour – current state value stream map



How can we refine the process to make it better and standard?

- What are the **main steps**?
- What are we **standardising**: quality, productivity, ease of application?
- Could we use a **different order**?
- Could we do it a **different way**?
- How can we **reduce wastes**, such as downtime?
- How can **variation be reduced**?

Now adjust the baseline process map!



6. Documenting the New Standard

We need to capture the new standard process

- Let's discuss and **agree on the wording and explanation** of the new process
- It **needs to be understandable** to people new to the process
- Describe **why it is better than the current way of working**: what are the benefits?
- What are the **key differences to the current situation**: what has changed?
- **Are we agreed on this is as the new Standard Operating Procedure?**



7. Visual Management



Intro to Lean workshops

- Generate ideas for improvements
- Identify potential project leaders



Issues and actions

Create ideas log:

- Issues
- Impacts
- Proposed actions
- Owners



Prioritisation

Criteria

- KPIs and potential benefits
- Expected cost of implementation
- Timeframe
- Ease / complexity



Selection

Business / sponsor approve:

- Projects to take forward
- Project leads
- Project support

- Your Director has said your site needs to be 'leaner'.
- You have been nominated as the person to identify and select areas where the site can be 'leaner'
- How are you going to go about this and ultimately make savings?
Step 1 meeting
- You need to be able to:
 - Identify and select opportunities
 - Engage key stakeholders
 - Arrange site permissions and organise site walks



- What are the main things needed to identify and select good opportunities for Lean improvement projects?
 - Write down your ideas
 - 5 minutes, then feedback
 - Tell us your thoughts, stick them on the wall
 - Next person to group theirs with previous comments
- What are the **common themes?**



-



- To prioritise your identified opportunities you will need some information
 - what the current situation is;
 - what the future situation could be;
 - therefore, what the potential improvement / saving is; and
 - what it will take to do the Lean improvement project itself



Three key things:

- Understand who your **key stakeholders** and decision makers are;
- Define the **business case** for why you should do this / these Lean Improvement Project/s;
- Decide on how you approach and **influence** your stakeholders



Your key stakeholders, who could they be?

- Call out some ideas and we'll write them down...



Your key stakeholders, who could they be?

- Project manager
- Site manager
- Package manager
- Subcontractor managers / leads
- The staff who would actually do it
- Finance/Commercial
- Suppliers, etc

Step meetings are the cornerstones of the project process

Step 1

Agree project outline: problem statement, scope, metrics and goals (SMART), sponsor sign-off



Step 2

Collect / analyse data, map process, use Lean tools to identify problems, root causes and develop potential solutions



Step 3

Refine / select solution: 3C and other Lean tools; apply solutions and track impacts



Step 4

Quantify outcomes and benefits; identify lessons learnt; share knowledge; sponsor sign-off

Thames Tideway Improvement Project

Site/Project			
Action Plan Owner	Team Members	Stakeholders (name/position/relevance)	Start Date
			Planned End Date
Concern: problem statement, scope (Step 1)		Countermeasure: solutions / mitigations, outcomes (Step 3)	SMART targets / goals
			Metrics and KPIs to track progress
Cause: analyse Root Cause - Fishbone, 5 Whys (Step 2)		Resources required to solve People Equipment Materials Money Time	Savings to date: financial and other
Lessons Learnt (Step 4)			

Step 1

Agree project outline: problem statement, scope, metrics and goals (SMART), sponsor sign-off

Attendees:

- All project leaders
- Project facilitators / coaches
- Company sponsor if available

- Purpose: introduce each project and present key project info
- Each project leader presents key info
 - Project outline
 - Problem statement
 - In / out of scope
 - Project goals (SMART)
 - Baseline data / metrics
 - Project team and key stakeholders
 - Resources: PEMME
 - Next steps
- Comments and questions on each project
- Sponsor sign-off (if not previously obtained)

Step 1: Fields to Complete on A3

[Project title, company]

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Lessons Learnt (Step 4)			

Problem statement

- “The rate of cladding installation on building MC1 is insufficient in relation to the plan and increases the level of risk to the building.”
- “The current rate of cladding on building MC1 is 3.1 bays per week (1.9 bays below target). This increases the risk of rain damage to the building and would delay £1.6m in customer stage payments as well as impacting company cash flow.”

Project scope

- State clearly what is / is not included in the improvement work being undertaken – e.g. “The project scope is to trial an automated payment system to all subcontractors on the Galliford Try M49 project, including recommendations for company-wide rollout. Payments to subcontractors on other projects are not part of the scope of this project.”

SMART targets / goals

Specific

Measurable

Achievable

Realistic

Timebound

SMART targets / goals

S pecific	Reduce the amount of non-value added rework required after 1st fix electrical installation by 75%
M easurable	Baseline (current) rework rates are measured and recorded
A chievable	Goal rate (after 75% reduction) is achievable based on data from comparable projects
R ealistic	The improvement plan is realistic based on achievements in other improvement projects
T imebound	e.g.: Project completion by 20 February 2019

Data and metrics

- Initial ideas for data collection
- Can existing data be used? If so,
 - How current is it?
 - How reliable is it?
 - How relevant is it to the project goals / targets?
- If new data is to be collected:
 - How feasible is it to obtain this data?
 - How long will it take to collect?
 - How much will it cost?
- How will data be represented: bar charts, pie charts, tables etc.
- Think key business parameters for measuring impact:

Quality – Cost – Delivery – Safety

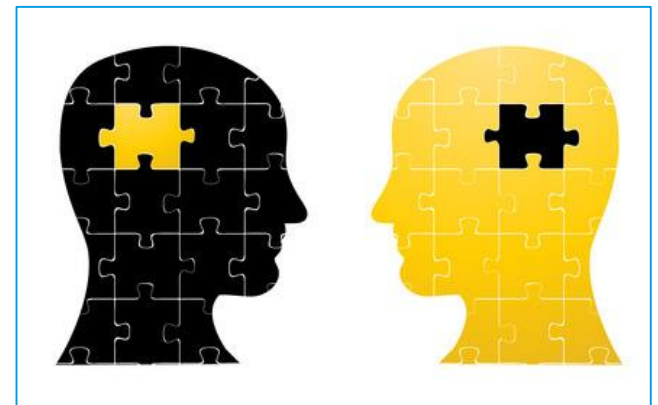
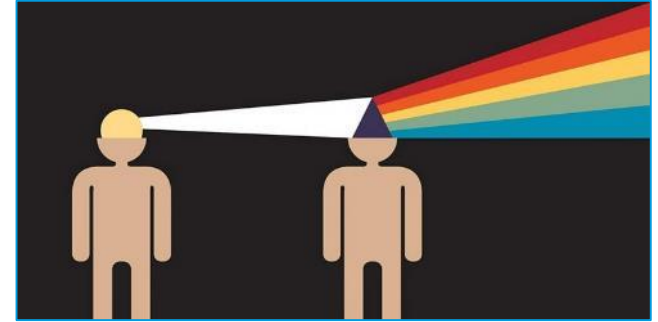
- Agree with facilitator, coach, company sponsor how savings will be measured

Project team and resources

- Who is involved: team members, key stakeholders
- Resources needed:
 - **P**eople
 - **E**quipment
 - **M**aterials
 - **M**oney
 - **T**ime
- How will project info be communicated – e.g.
 - Daily activity briefings
 - Weekly production control meetings
 - Handouts, posters, toolbox talks
 - Reports

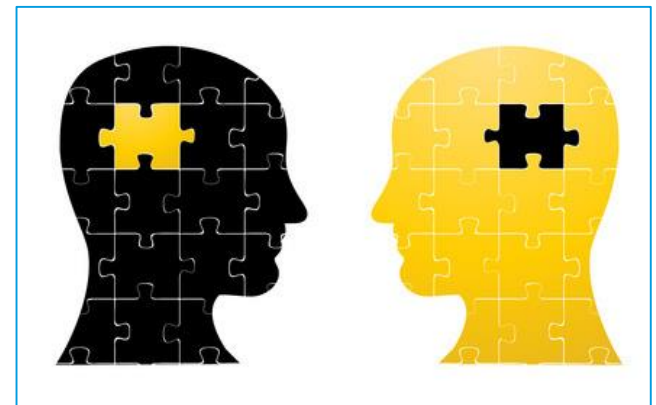
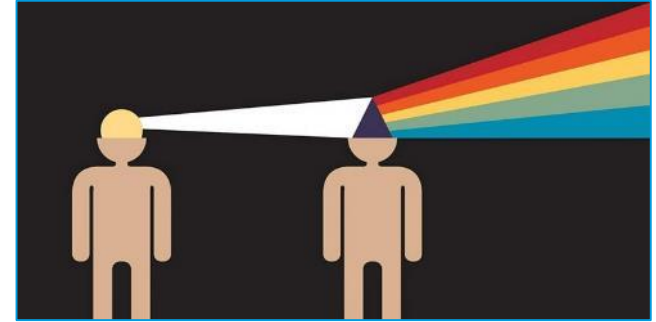
How can we influence other people – senior management, team members, subcontractors – to get on board with our projects

- Call out some ideas and we'll write them down...



Tips to influence key stakeholders

- Find out if they are satisfied with the current situation
- Establish trust with them
- Be clear and concise in what you're proposing
- Show you know what you're talking about
- Create a sense of urgency
- Deal with objections
- Get commitment



Step 2

Collect / analyse data, map process, use Lean tools to identify problems, root causes and develop potential solutions

Attendees:

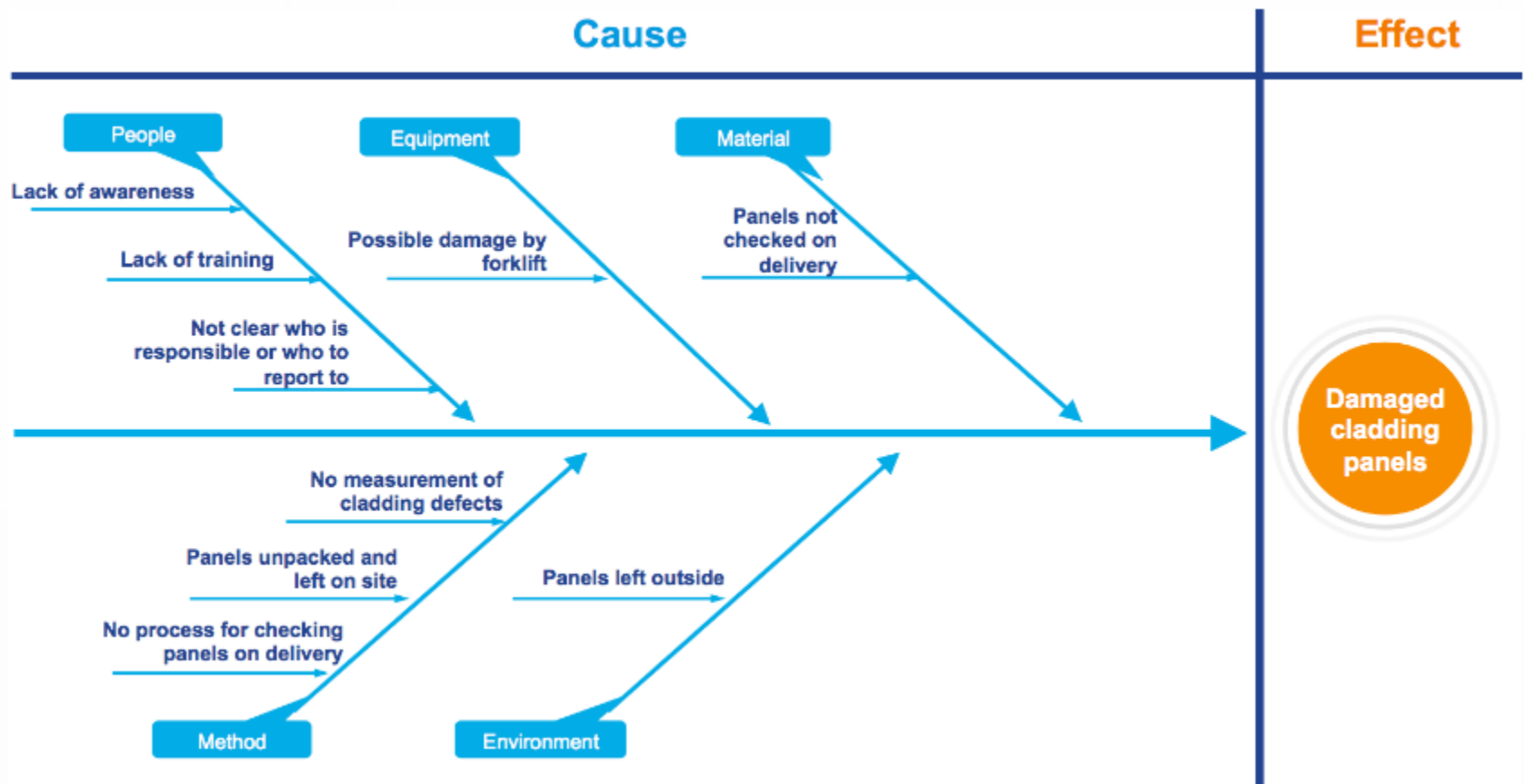
- All project leaders
- Project facilitators / coaches

- Purpose: review project progress
- Each project leader presents key info
 - Review / results of data collection and analysis
 - Lean tools applied and issues identified, e.g. from
 - 5S
 - Process mapping
 - 7 wastes
 - Root cause problem solving
 - 5 whys analysis
 - What are the specific problems / wastes to be addressed?
 - Potential solutions or mitigations being explored
 - Next steps
- Comments and questions on each project

[Project title, company]

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Lessons Learnt (Step 4)			

Cause and effect analysis example



Step 3

Refine / select solution: 3C and other Lean tools; apply solutions and track impacts

Attendees:

- All project leaders
- Project facilitators / coaches

- Purpose: review progress
- Each project leader presents key info
 - Review investigation / application of solutions
 - Lean tools applied, e.g.
 - Measures taken to eliminate wastes identified
 - Process improvement
 - Visual management
 - Standardised work
 - Collaborative planning and production control
 - 5S programmes
 - Expected impacts / benefits
 - Prioritise solutions (consider ease / cost vs benefit)
 - Next steps: Plan – Do – Check – Act
- Comments and questions on each project

[Project title, company]

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Lessons Learnt (Step 4)			

Step 4

Quantify outcomes and benefits; identify lessons learnt; share knowledge; sponsor sign-off

Attendees:

- All project leaders
- Project facilitators / coaches
- Company sponsor

- Purpose: present outcomes and lessons learned
- Each project leader presents a complete overview of their project:
 - Project statement and goals
 - Metrics and KPIs
 - Lean tools applied
 - Problem(s) identified
 - Solutions mitigations considered and implemented
 - Outcomes / benefits achieved
 - Savings: financial and other
 - Lessons learned and recommendations
- Comments and questions on each project
- Agree actions for dissemination
- Sponsor sign-off

[Project title, company]

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Lessons Learnt (Step 4)			

Improvement Projects Log: Overview

- Use this sheet to provide overview of improvement projects being undertaken: main contractor and site; project title, reference and project leader; company undertaking project (could be main contractor or subcontractor); project sponsor and facilitator / coach
- Complete one project log template per improvement project as you go along: log intervention type (from dropdown), objectives, dates, attendees etc for each intervention, together with info on Lean methodologies utilised and notes on data, metrics, cost etc. Be sure to take photos / video; evidence of problems identified and solutions investigated; collate data collection sheets and info / evidence of outcomes, impacts etc.
- Complete A3 template for each project, along with images / data / results / impacts. We suggest project leaders populate and update their A3 prior to each 'Steps' meeting (PW workshop) for joint review.

[illegible]

Improvement projects log – interactions

[illegible]

Defining and getting approval for a Lean project

- Complete the 'Step 1' sections on the A3 template for one of the project ideas you identified in the Intro to Lean workshop

[Project title, company]

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Lessons Learnt (Step 4)			

What will you as project leader / facilitator need to arrange for an on-site Lean improvement project workshop and site walk?

- Call out some ideas and we'll write them down...

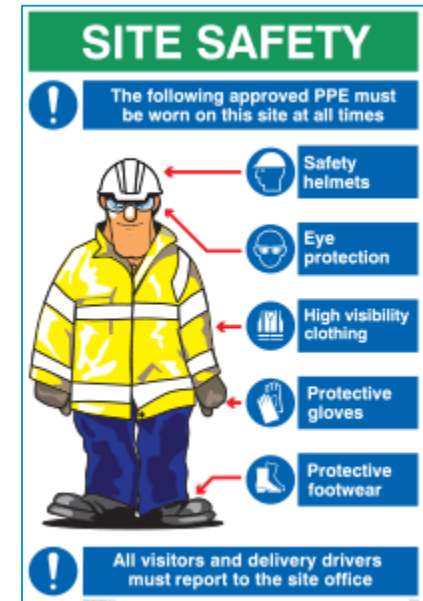


**Site access
only**

only
Site access

Examples of some of the arrangements needed:

- Site access permission
- Site induction if they don't work there regularly (*however, by definition of a Lean Improvement Project, they should*)
- Allocation of PPE
- Hours when site walkabouts can and can't be done
- Special permissions to access areas at height, confined spaces, etc
- Access to rooms and cabins
- Etc.



- Any final comments or thoughts?
- Do you have any questions?
- Don't forget to sign the attendance sheet and fill in the feedback form