LEA Webinar

Lean A3 Problem Solving

D.Brunt, D.Marriott, P.Watkins

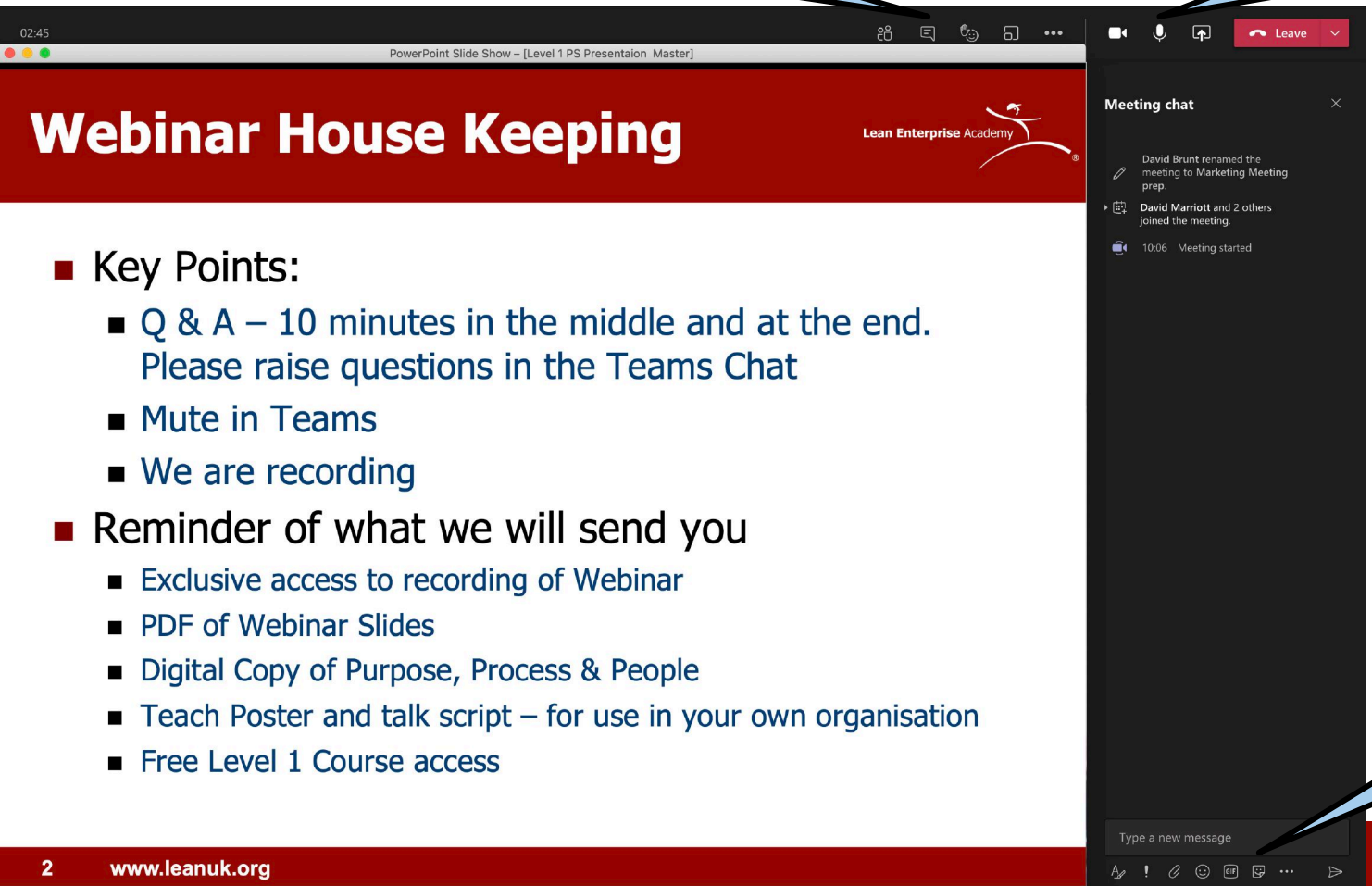
March 10th 2021

Webinar House Keeping

Lean Enterprise Academy

To ask a question click to open the chat

Please check you are muted



Type question here

LEA - Purpose & Approach

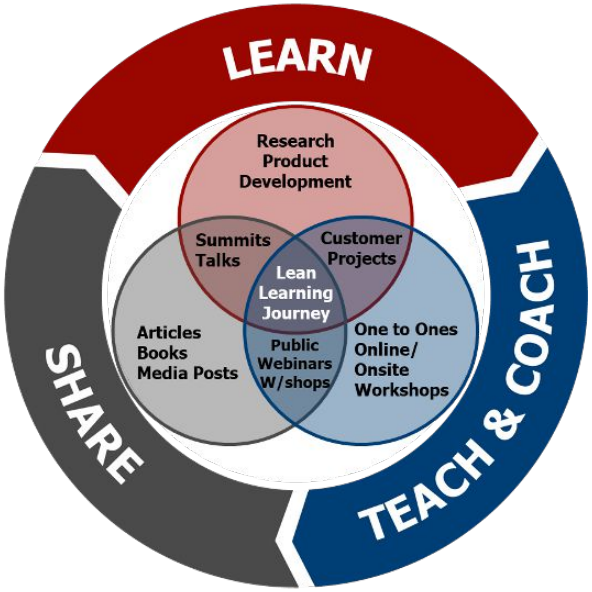
Lean Enterprise Academy

Our Purpose:

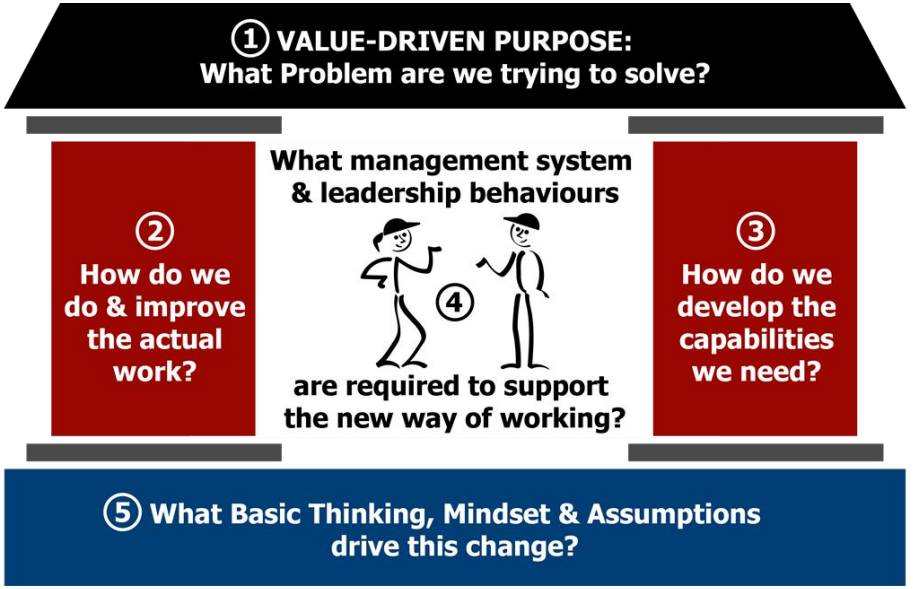
We are a not for profit organisation, established to help customers become self-reliant on their lean journey. Through research, products and services we provide better, faster and cheaper ways to learn and improve.

Our Approach:

SELF RELIANT CUSTOMERS

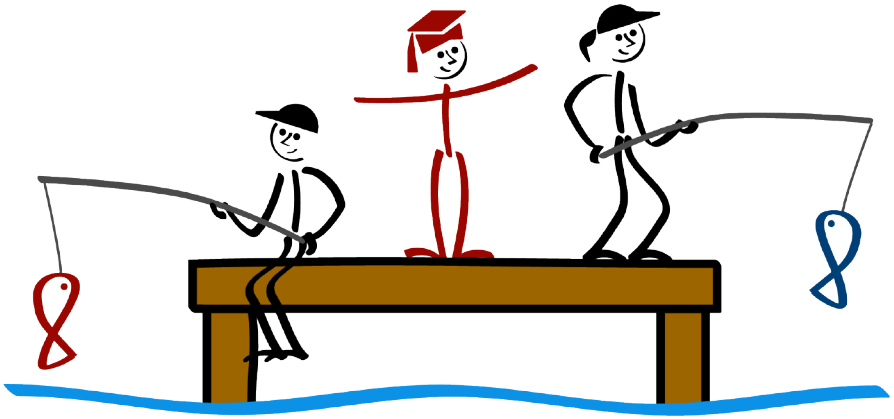


LEAN TRANSFORMATION FRAMEWORK



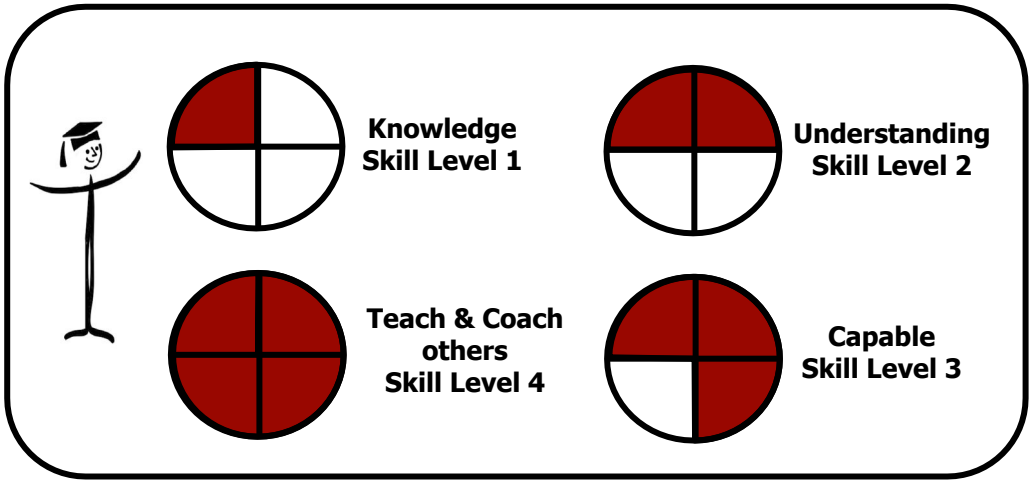
LEA - Learning Lean

Lean Enterprise Academy



*"Give a man a fish and you feed him for a day. **Teach** him how to fish and you feed him for a lifetime"*
– Lao Tzu

Skill Development – 4 Levels



Online/On Site Support

What is your Lean Journey?

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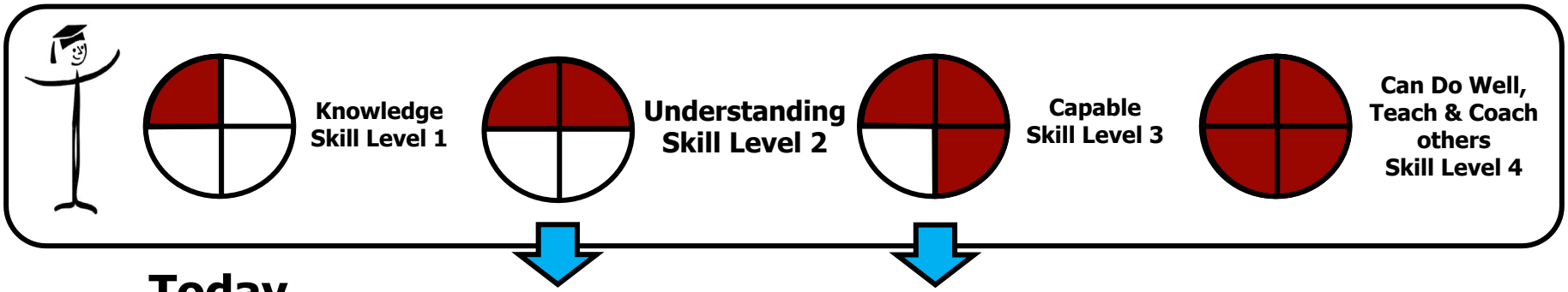
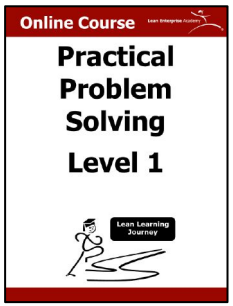
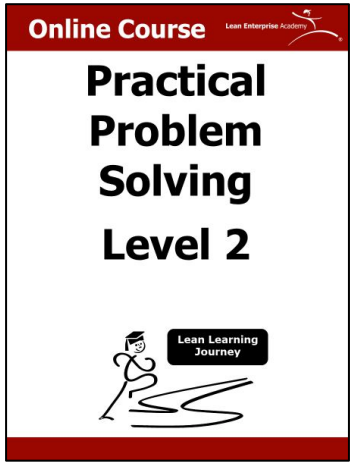
Lean Learning Journey – Skill Levels



Today

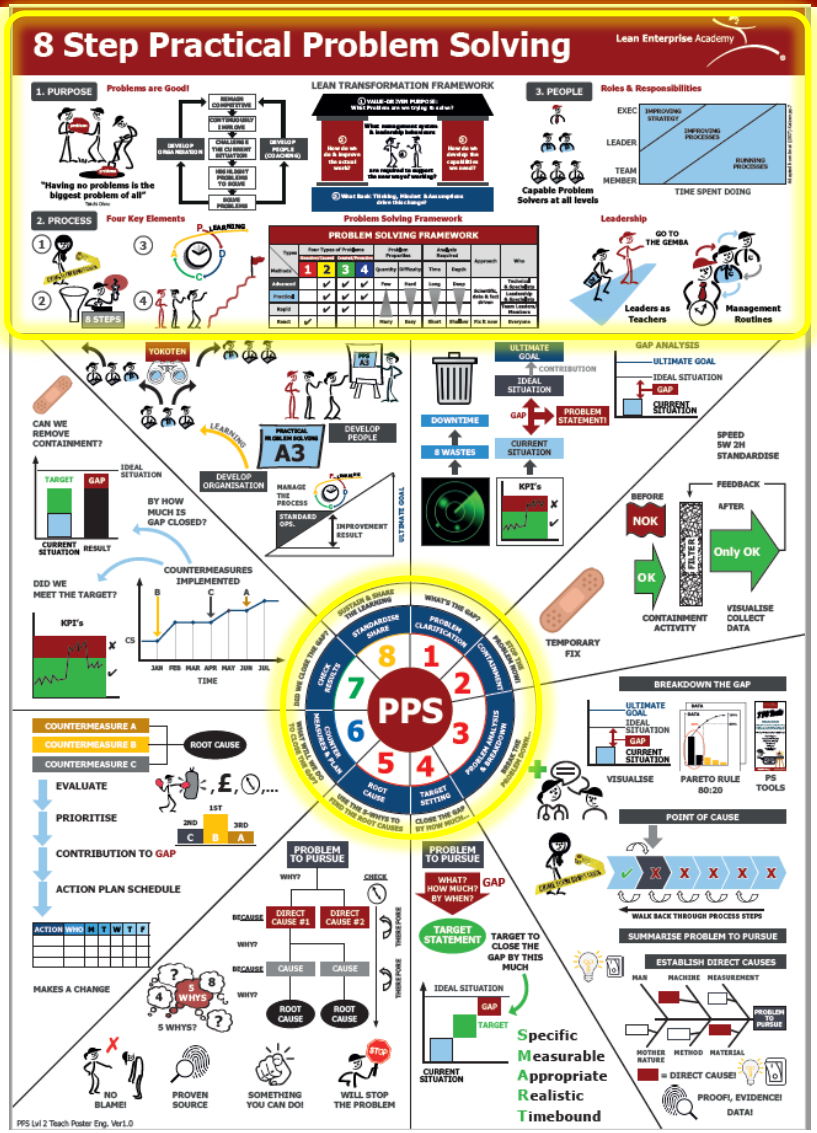




- **You must practice.**
- **We Offer online Teaching and Coaching of A3 Practical Problem Solving.**
- **Become capable of solving your own problems!**

PPS Understanding Level 2 Online Course Available at www.leanuk.org/Lean Learning Journey

Problem Solving – Agenda



- **Agenda**
- Teach Poster Concept
- Introduction to Problem Solving
  - Purpose
  - Process
  - People
- Q & A
- Overview of the 8 Steps
- PPS A3's
- Understanding the 8 Steps – Level 2
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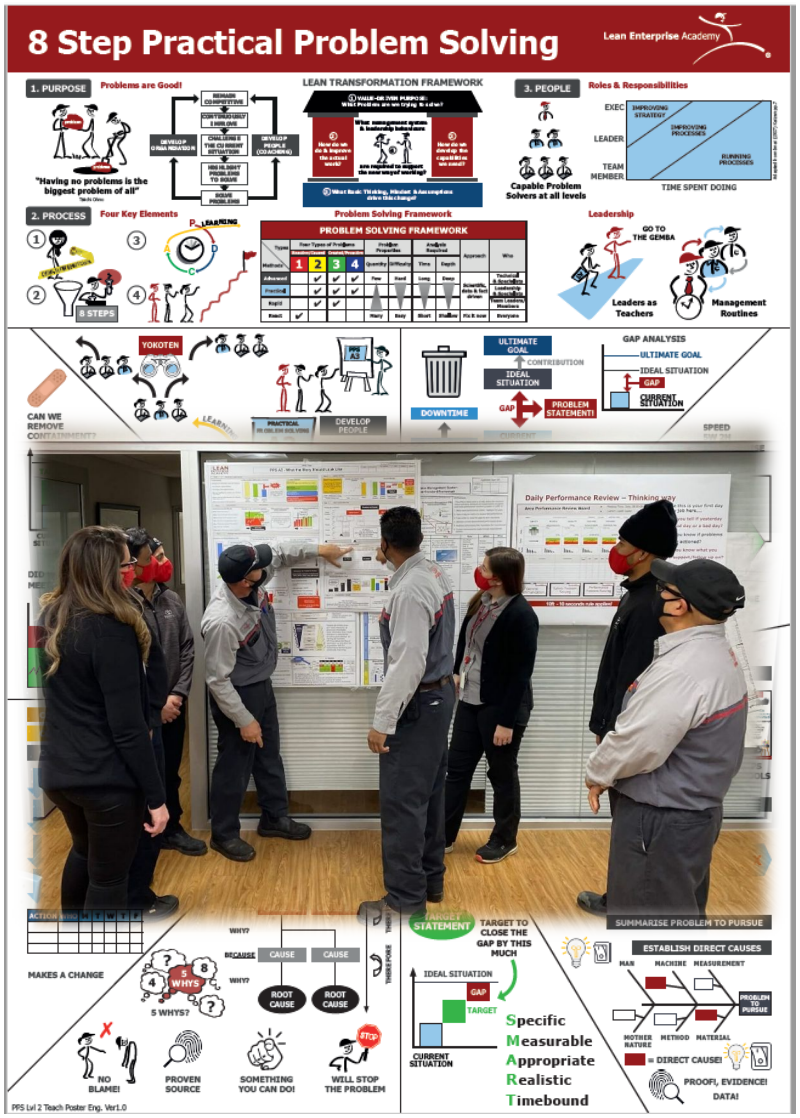
Teach Poster Concept



Why do we use a Poster?

- Can be taught by leaders in the workplace or online without the need for a training room.
- Structured in to defined areas making it easier to remember.
- Pictures are remembered easier than words & create more interest and discussion.
- A poster can be put up in your workspace for future reference, not hidden on a pc.

Problem Solving – Introduction

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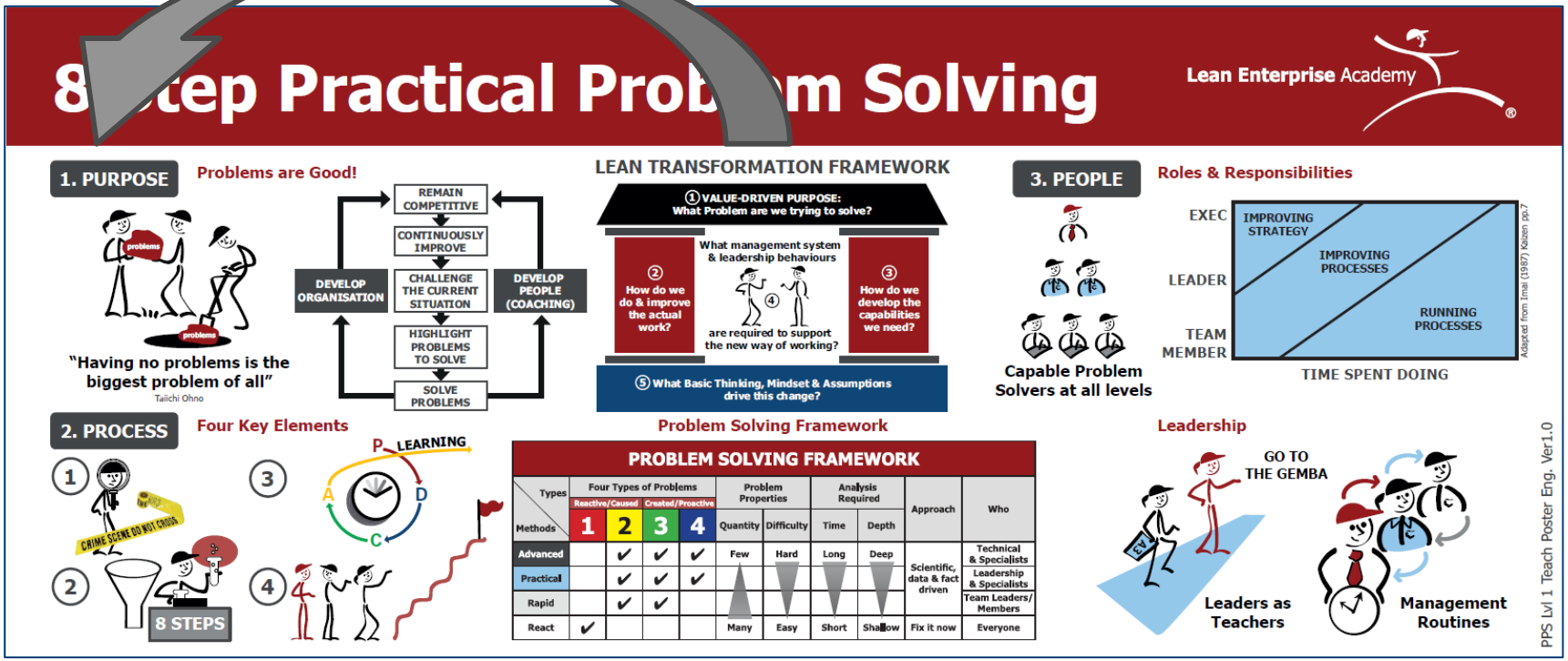
Work through:

1. **Purpose**
2. **Process**
3. **People**

Starting Point:

Lean Transformation Framework



Lean Transformation Framework

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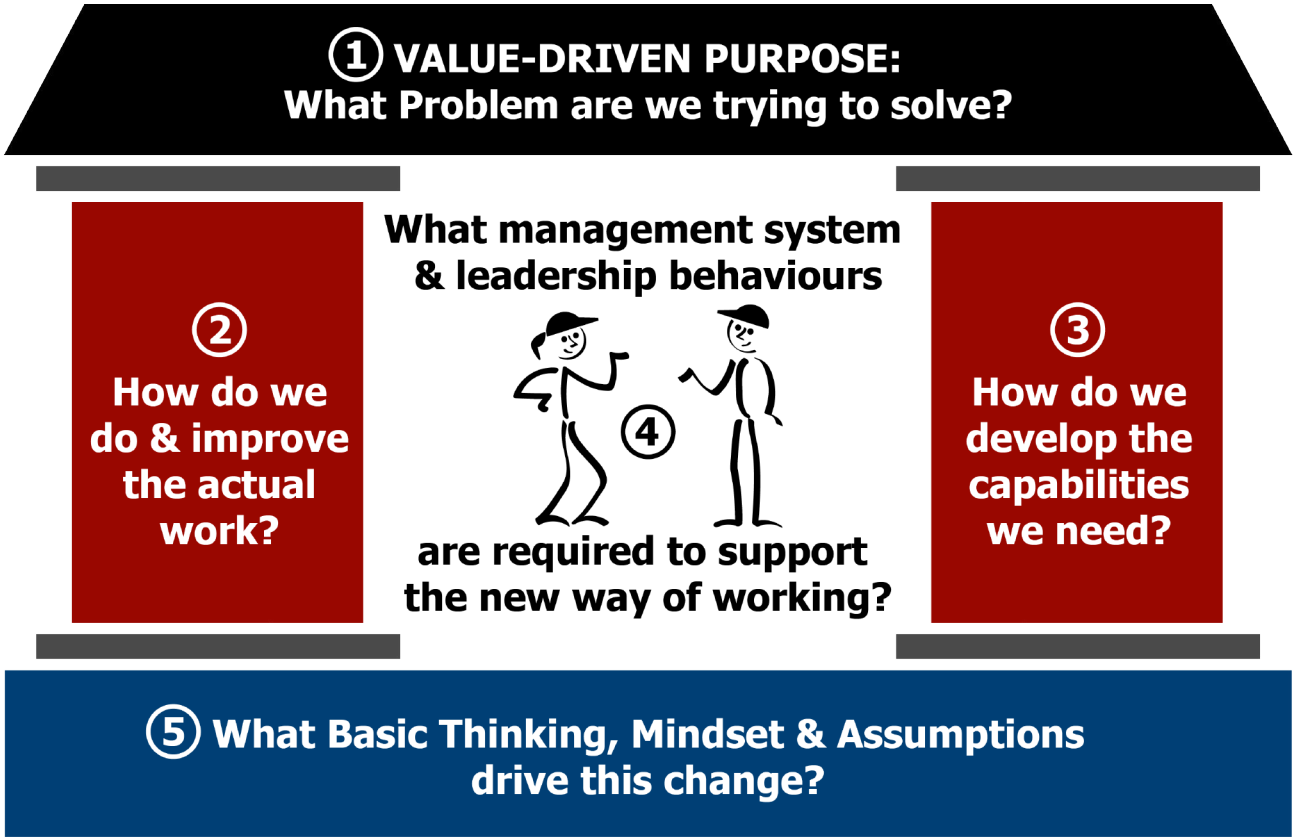
Problem Solving is the #1 Lean Skill!



- Go to www.leanuk.org/what-is-lean/working-with-us

to see the full LTF video explanation

1.0 Purpose

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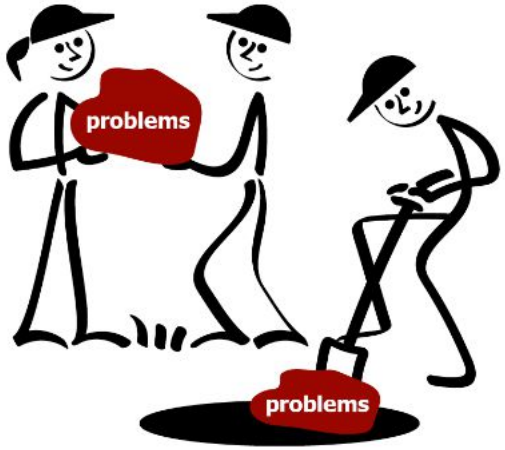
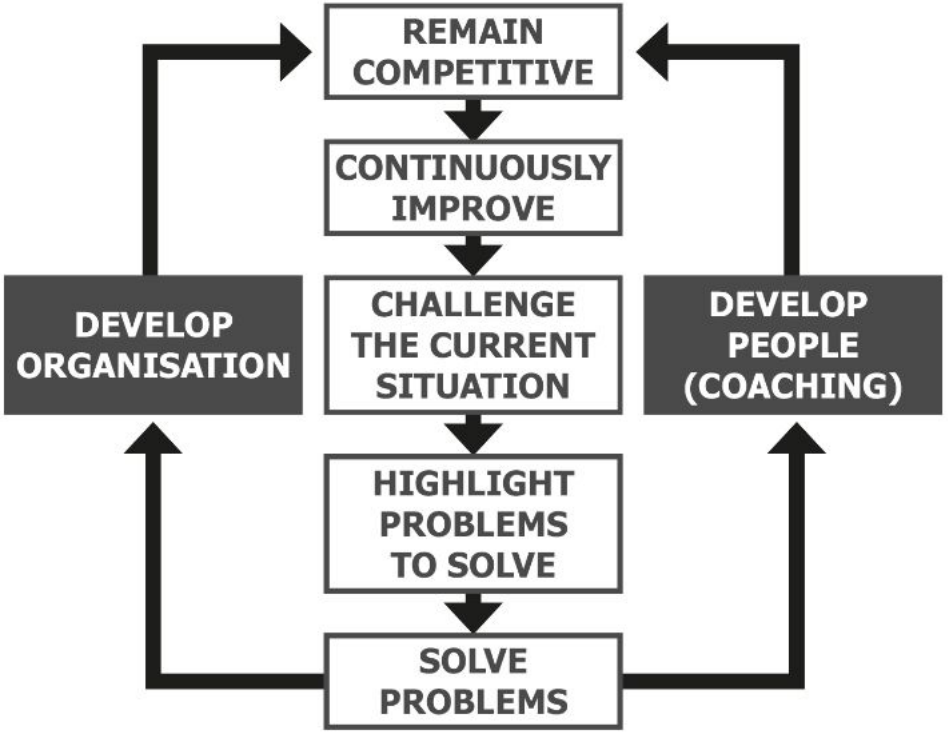
1. PURPOSE

Problems are Good!



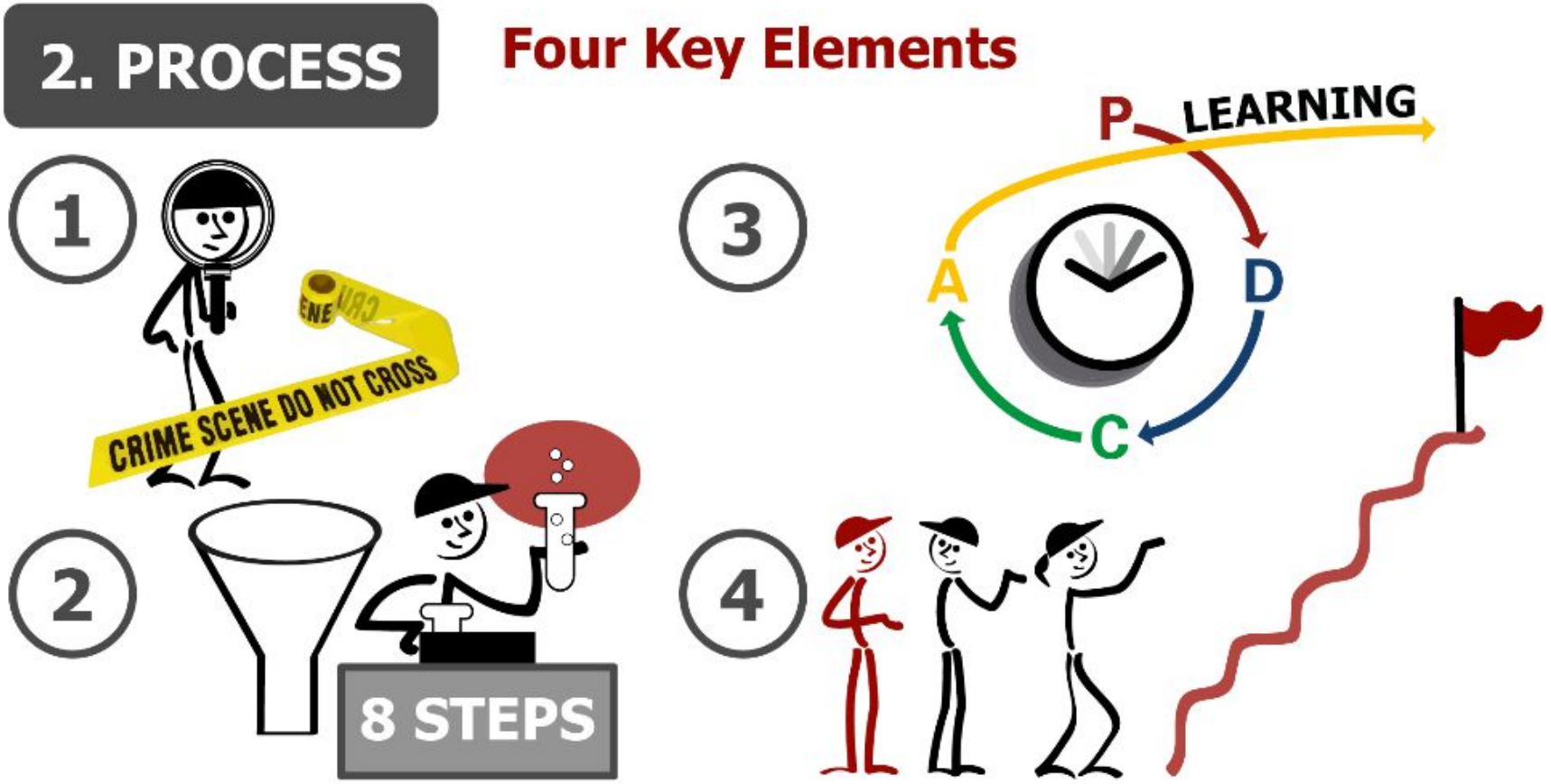
"Having no problems is the biggest problem of all"

Taiichi Ohno



Supports People and Business Development

2.0 Process


2. PROCESS
Four Key Elements
1
CRIME SCENE DO NOT CROSS
2
8 STEPS
3
P
LEARNING
A
D
C
4

2.0 Process

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PROBLEM SOLVING FRAMEWORK

Types / Methods	Four Types of Problems				Problem Properties		Analysis Required		Approach	Who
	Reactive/Caused		Created/Proactive							
	1	2	3	4	Quantity	Difficulty	Time	Depth		
Advanced		✔	✔	✔	Few	Hard	Long	Deep	Scientific, data & fact driven	Technical & Specialists
Practical		✔	✔	✔						Leadership & Specialists
Rapid		✔	✔							Team Leaders/ Members
React	✔				Many	Easy	Short	Shallow	Fix it now	Everyone

3.0 People

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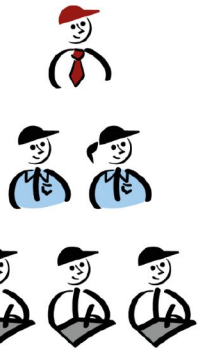
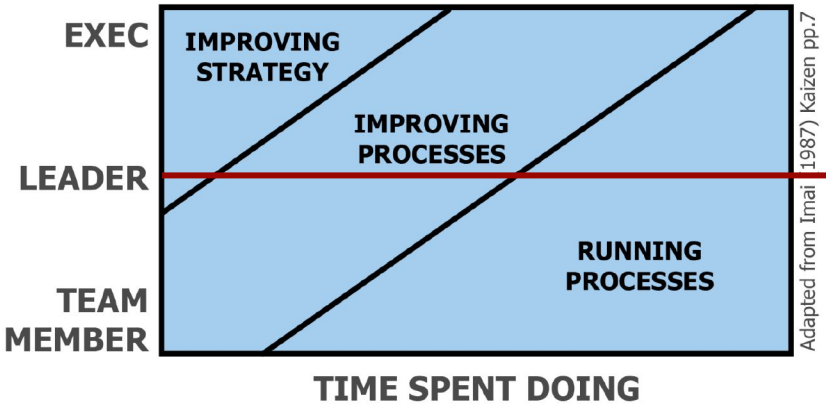
3. PEOPLE

Roles & Responsibilities

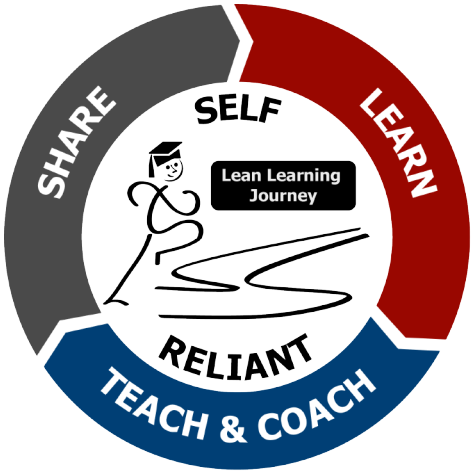


Capable Problem Solvers at all levels

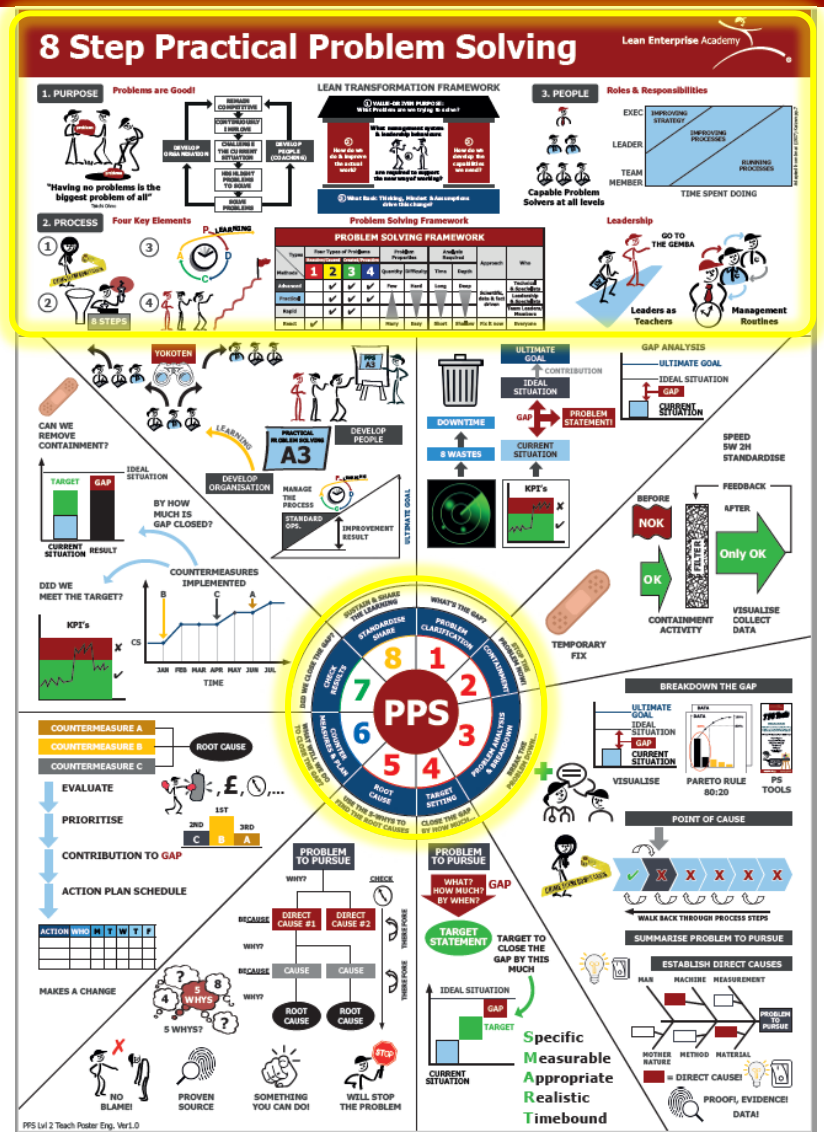


What is your Time Spent Doing?

Leadership



Problem Solving – Agenda



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Questions ?

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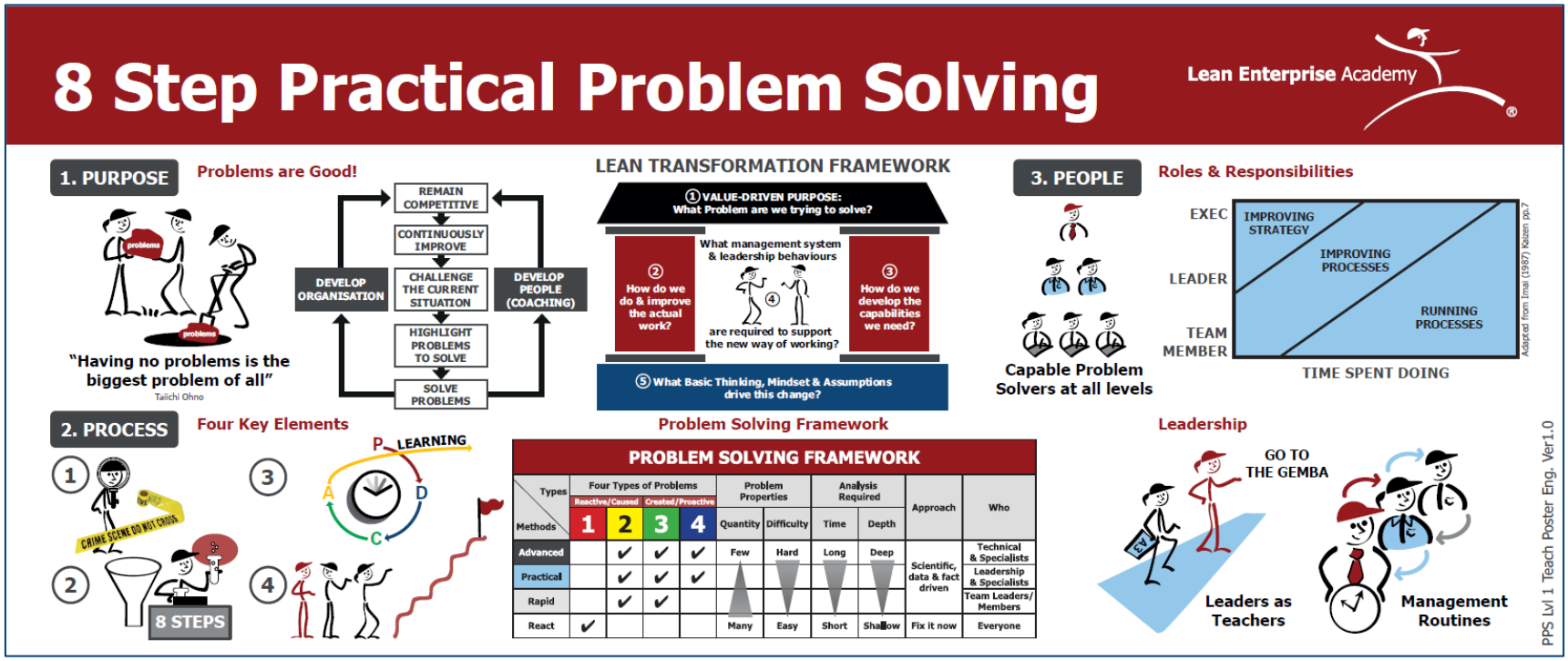
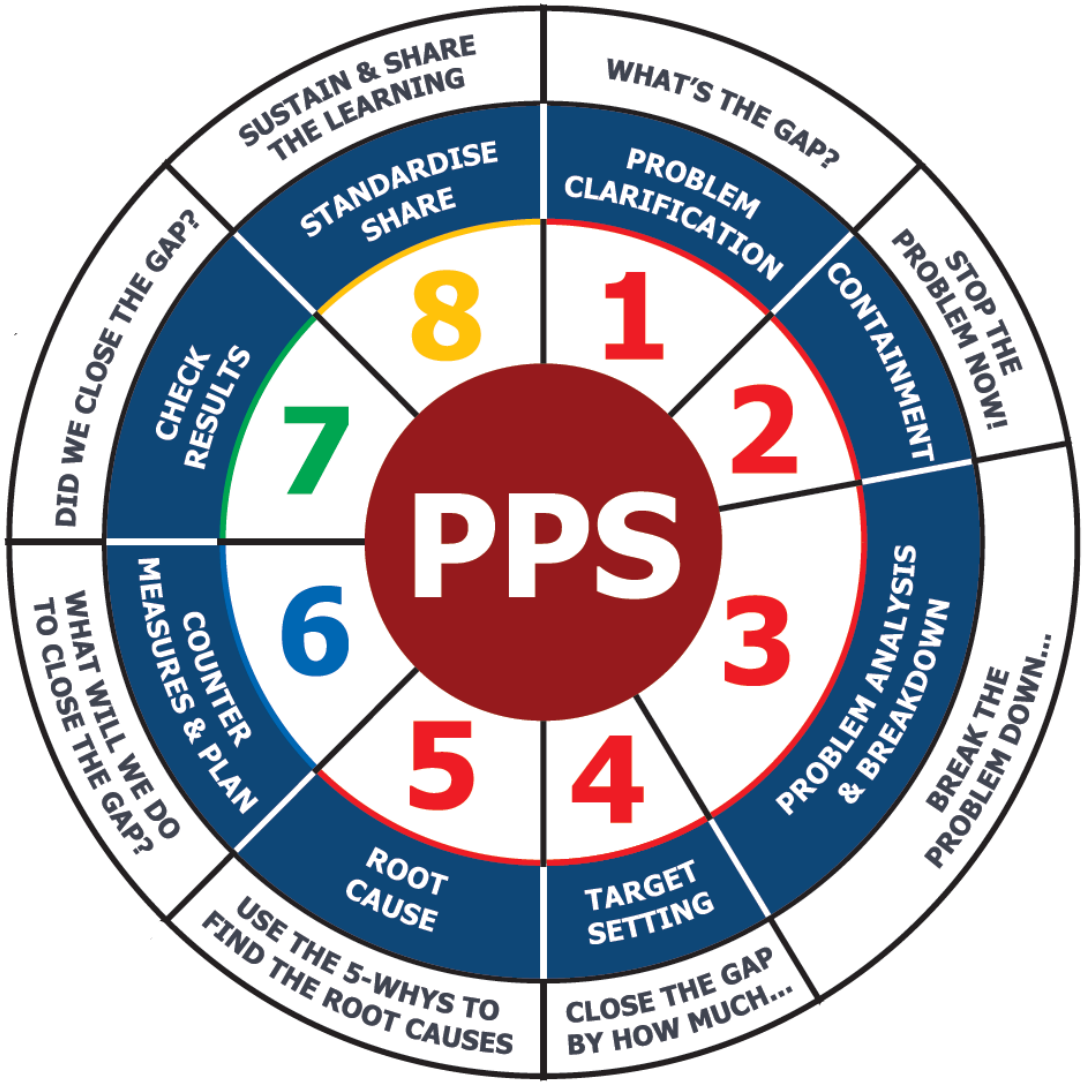
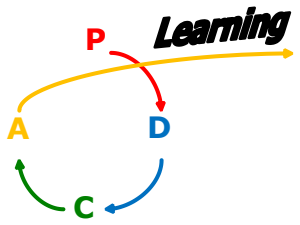
What Questions Do You Have?



Overview of the 8 Steps





Follows PDCA Thinking

- **Time spent Planning before Doing anything....**

Step 1 – Problem Clarification

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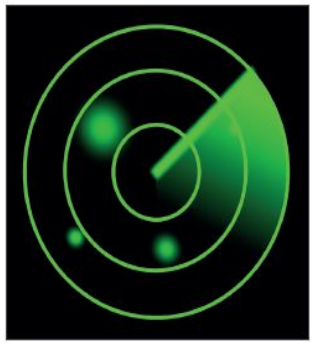
DOWNTIME

8 WASTES



ULTIMATE GOAL

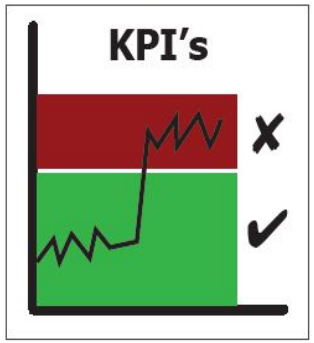
CONTRIBUTION

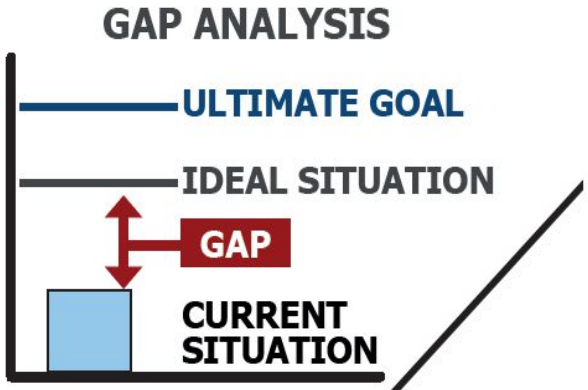
IDEAL SITUATION

GAP

PROBLEM STATEMENT!

CURRENT SITUATION

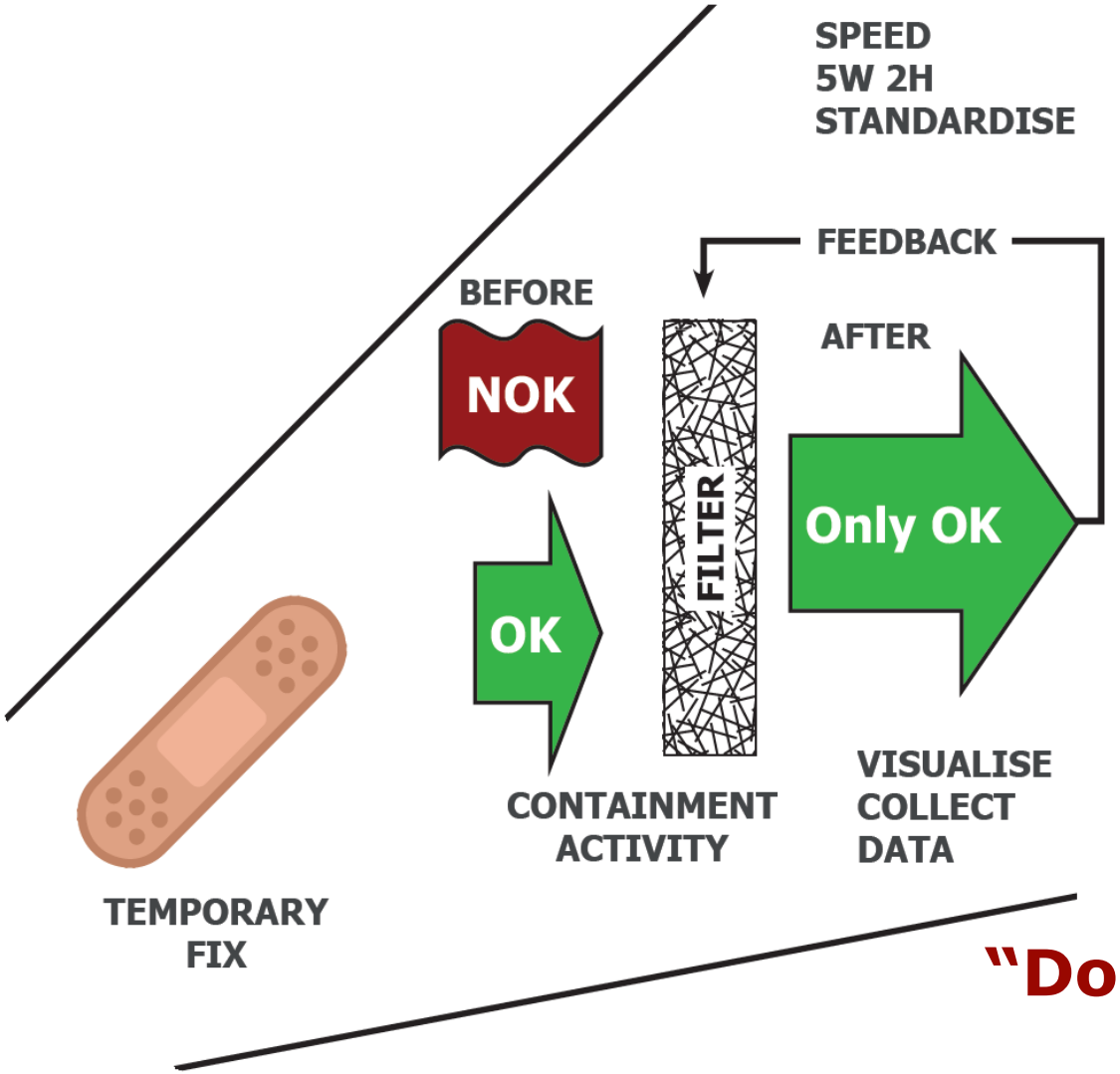




- Understand Waste to identify Problems
- What's the GAP ?
- Visualise the GAP so everyone is aligned

"Step 1 is Key"

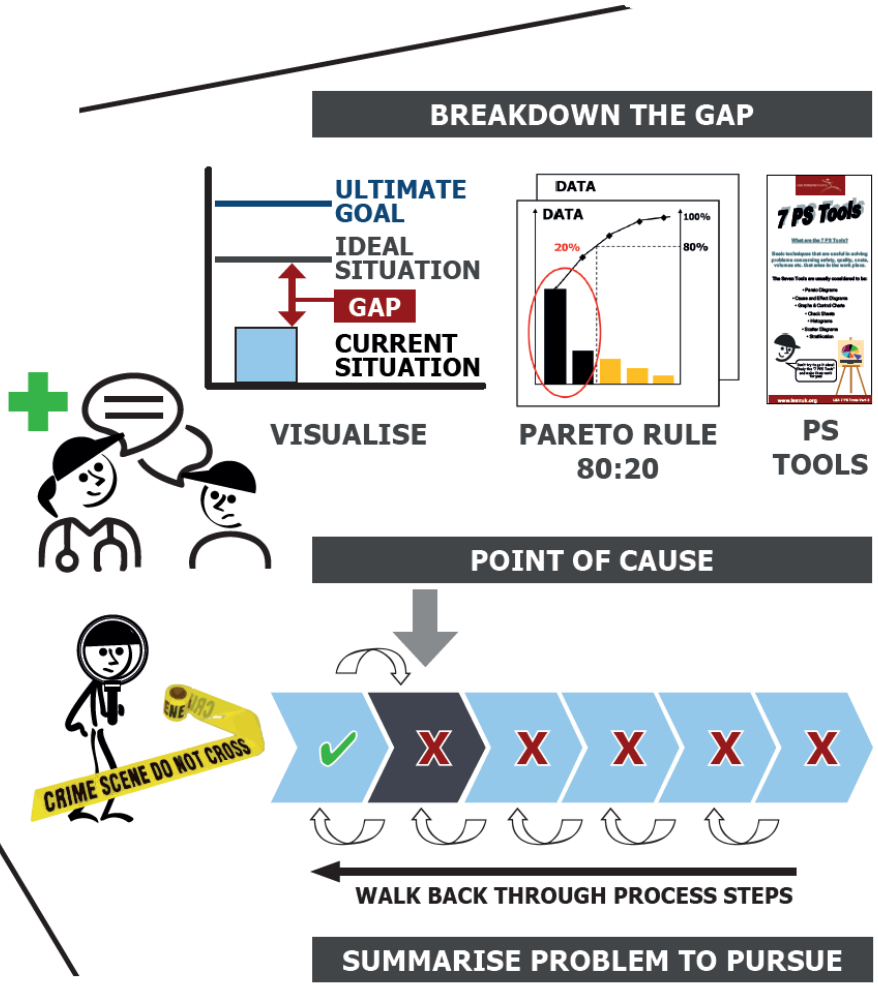
Step 2 – Containment



- **Stop the bleeding**
- **Protect the customer**
- **Understand the problem better**

"Don't stop after Step 2 Containment"

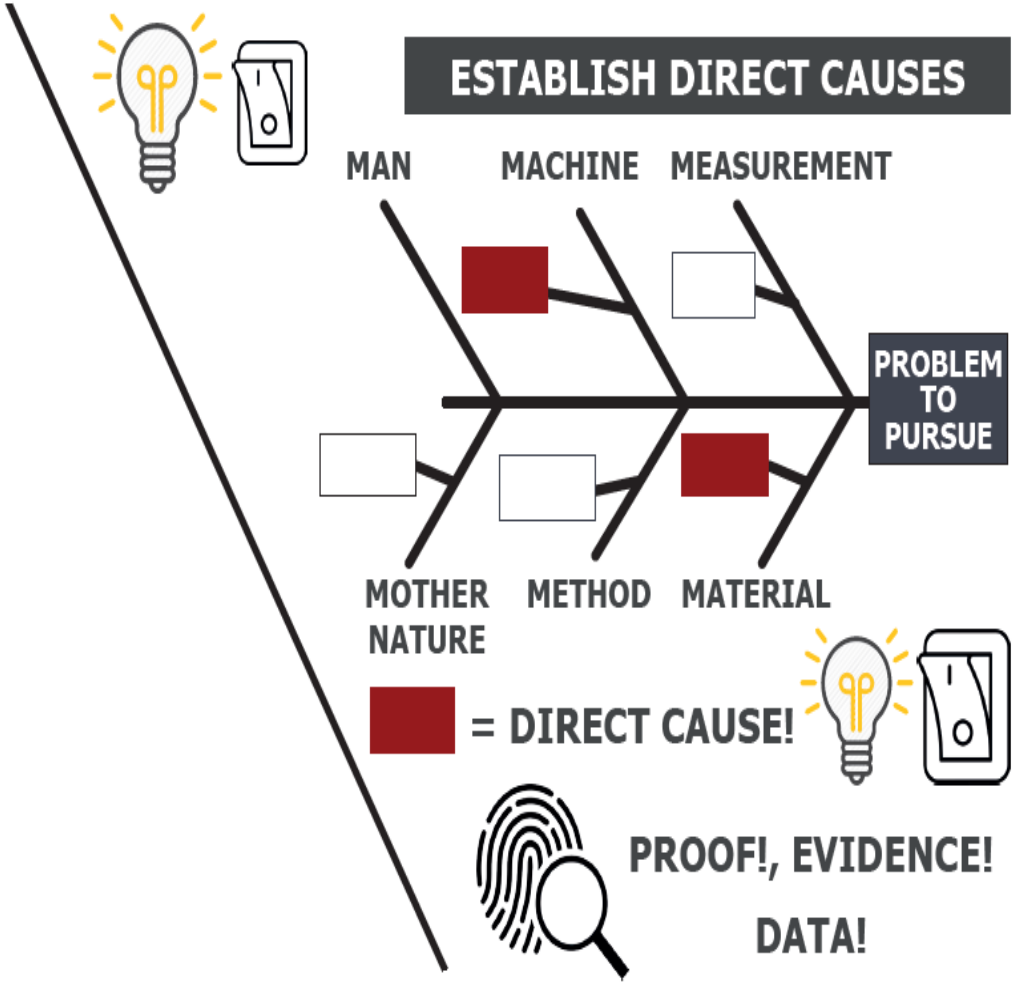
Step 3 – Problem Analysis & Breakdown



- Start with GAP from step 1
- Breakdown the large vague problem with data
- Prioritise the biggest contributing causes
- Go Study for yourself
- Problem to Pursue - What, When, Where,

"Define the Problem to Pursue"

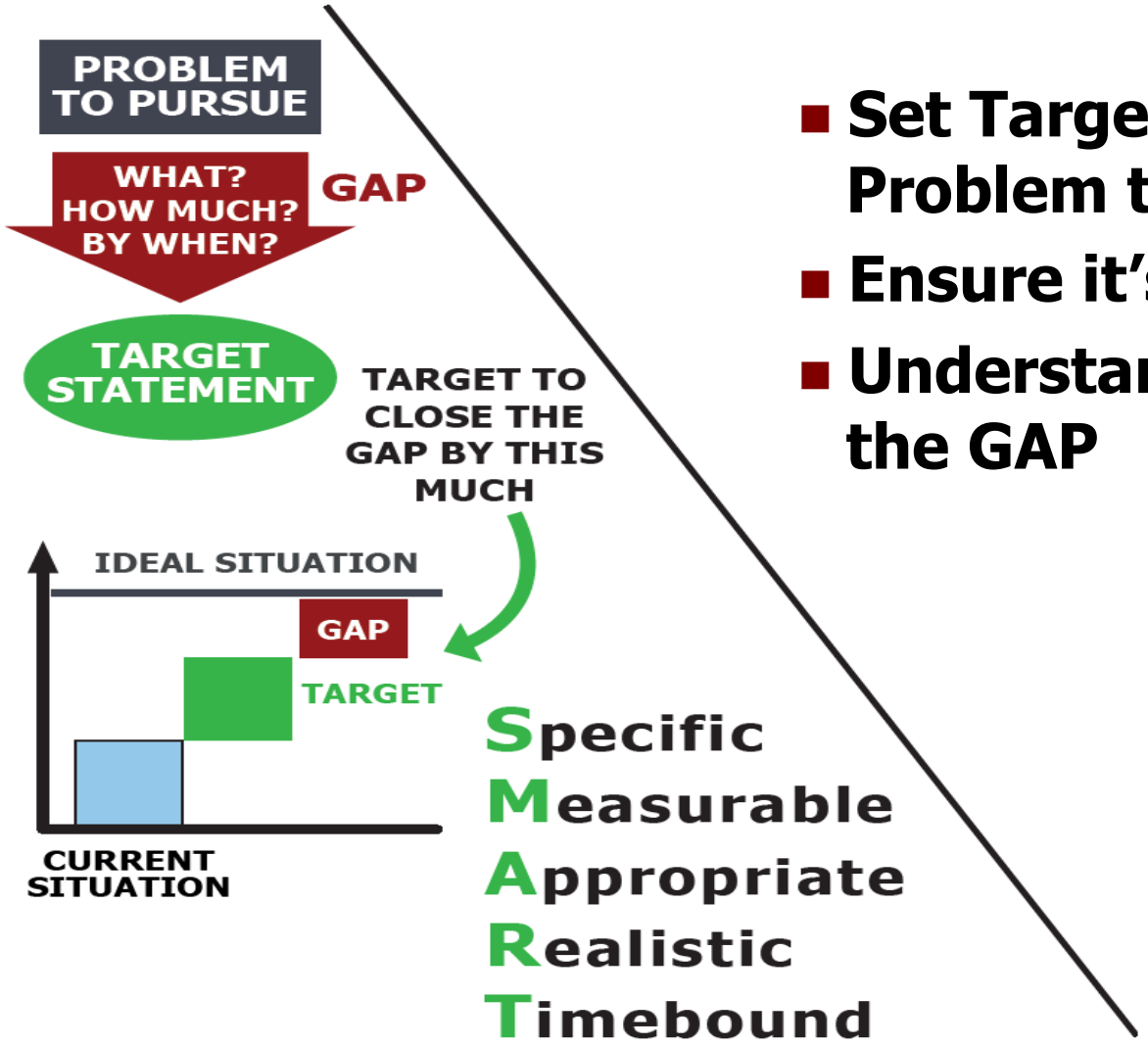
Step 3 – Problem Analysis & Breakdown



- **Establish Direct Causes of Problem to Pursue**
- **Can use Fishbone diagram as brainstorm framework**
- **Must Prove with Data**

"Prove Cause & Effect"

Step 4 – Target Setting



- Set Target against Problem to Pursue
- Ensure it's SMART
- Understand the impact on the GAP

"Be SMART"

Step 5 - Root Cause

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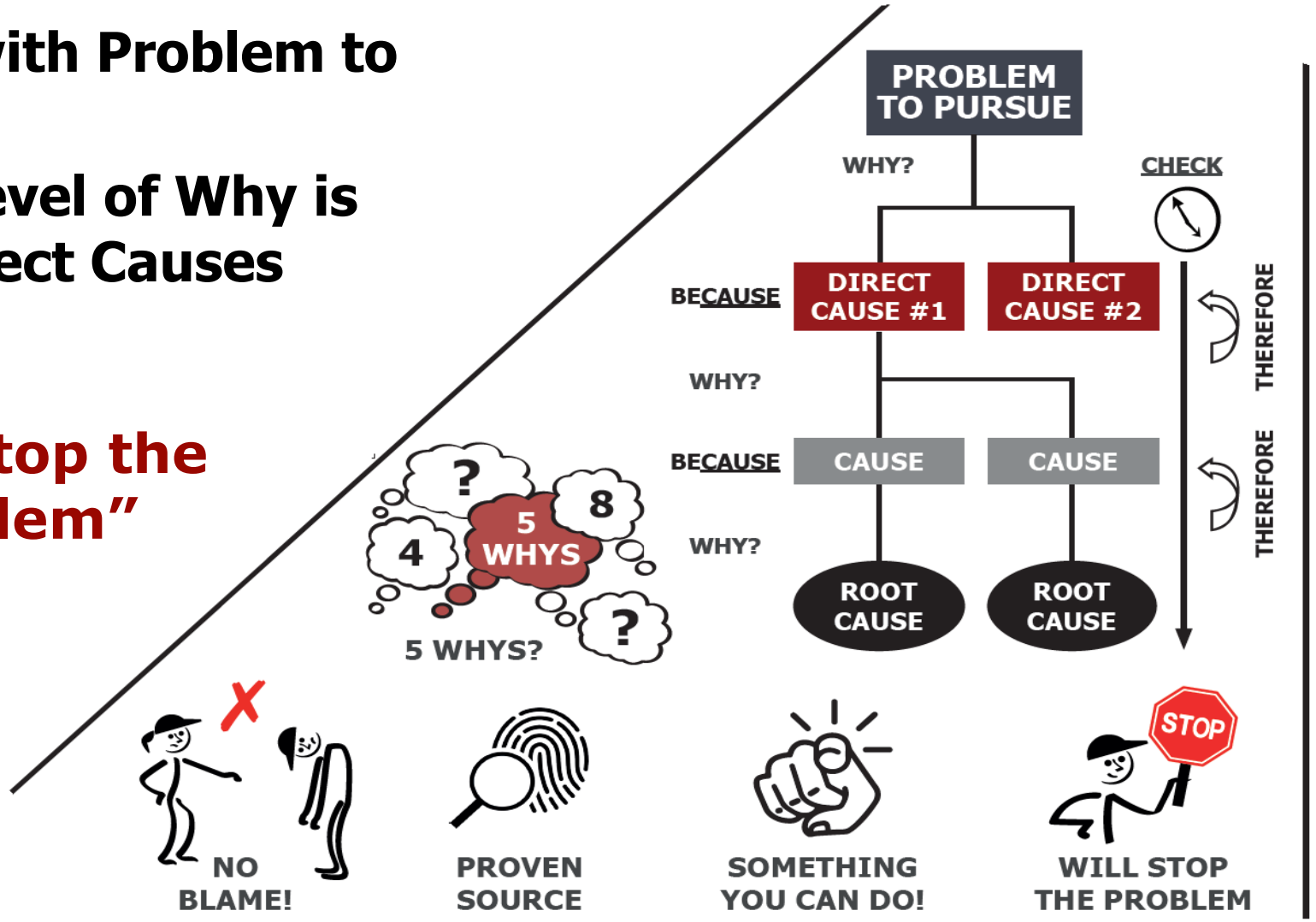
- **Start with Problem to Pursue**
- **First Level of Why is the Direct Causes**

"Will Stop the Problem"



Step 6 – Countermeasures & Plan

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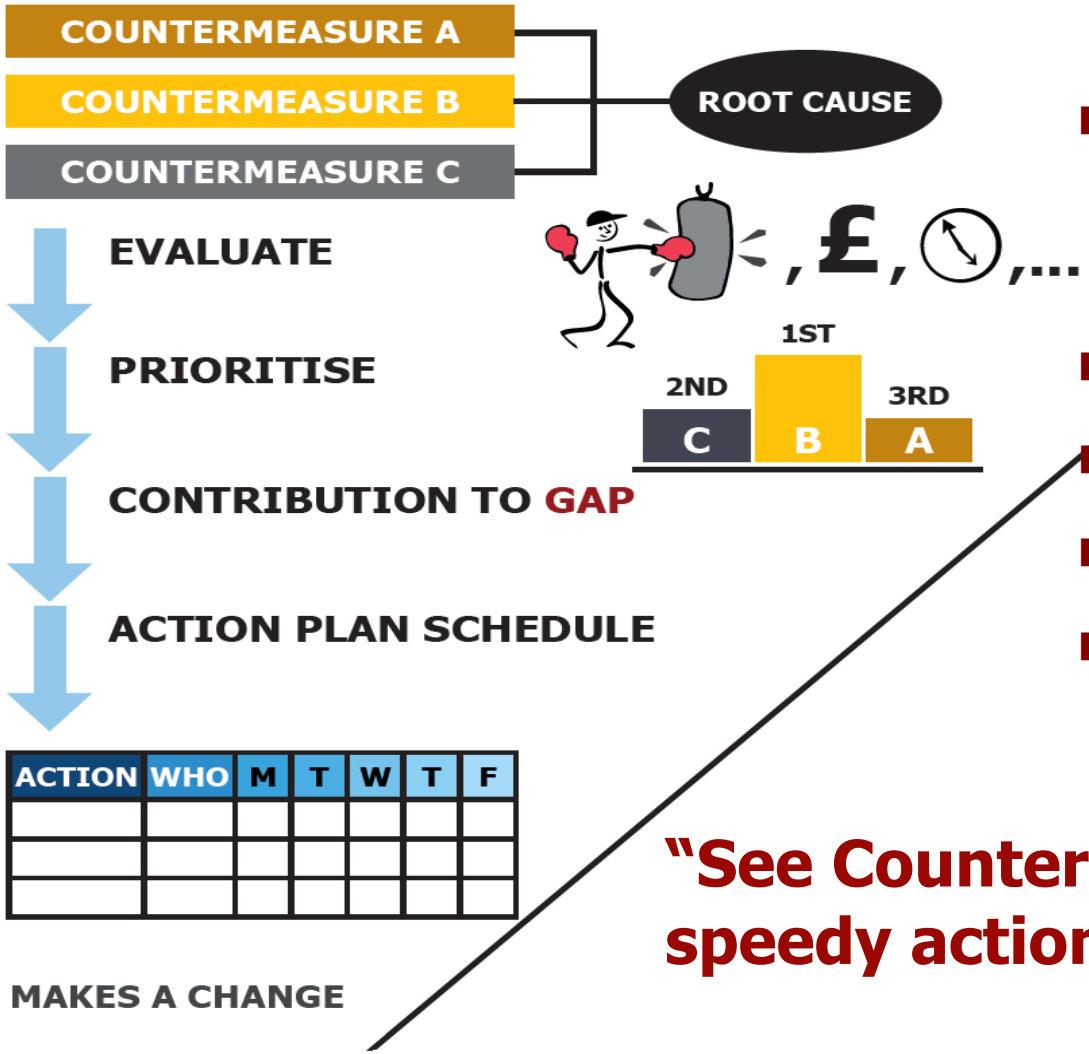
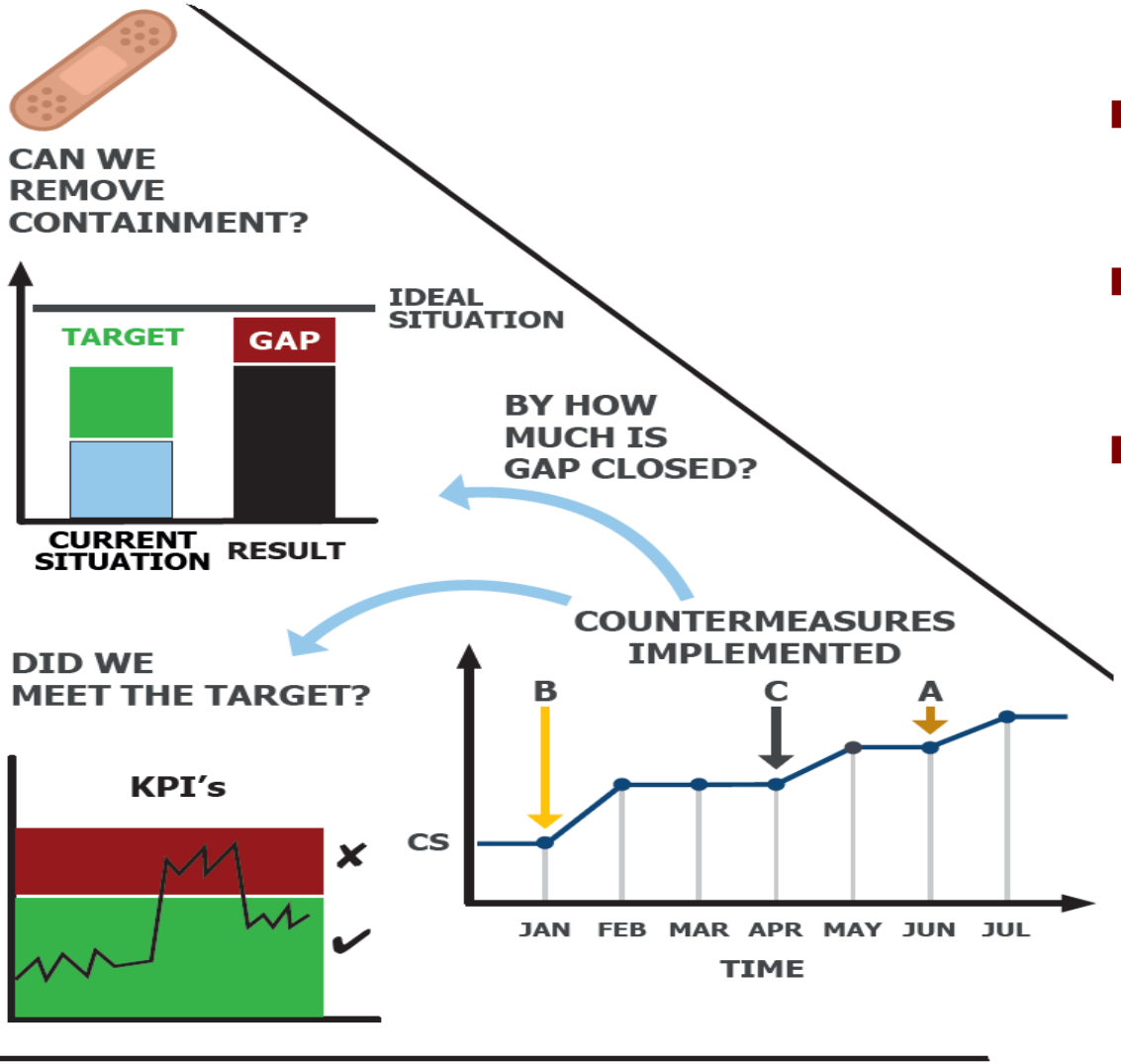


- Countermeasures aligned to specific to root causes
- Alternative Ideas
- Evaluate & prioritise
- Make a change
- PDCA process for each countermeasure

"See Countermeasures through" with speedy action together as a team

Step 7 – Check Results

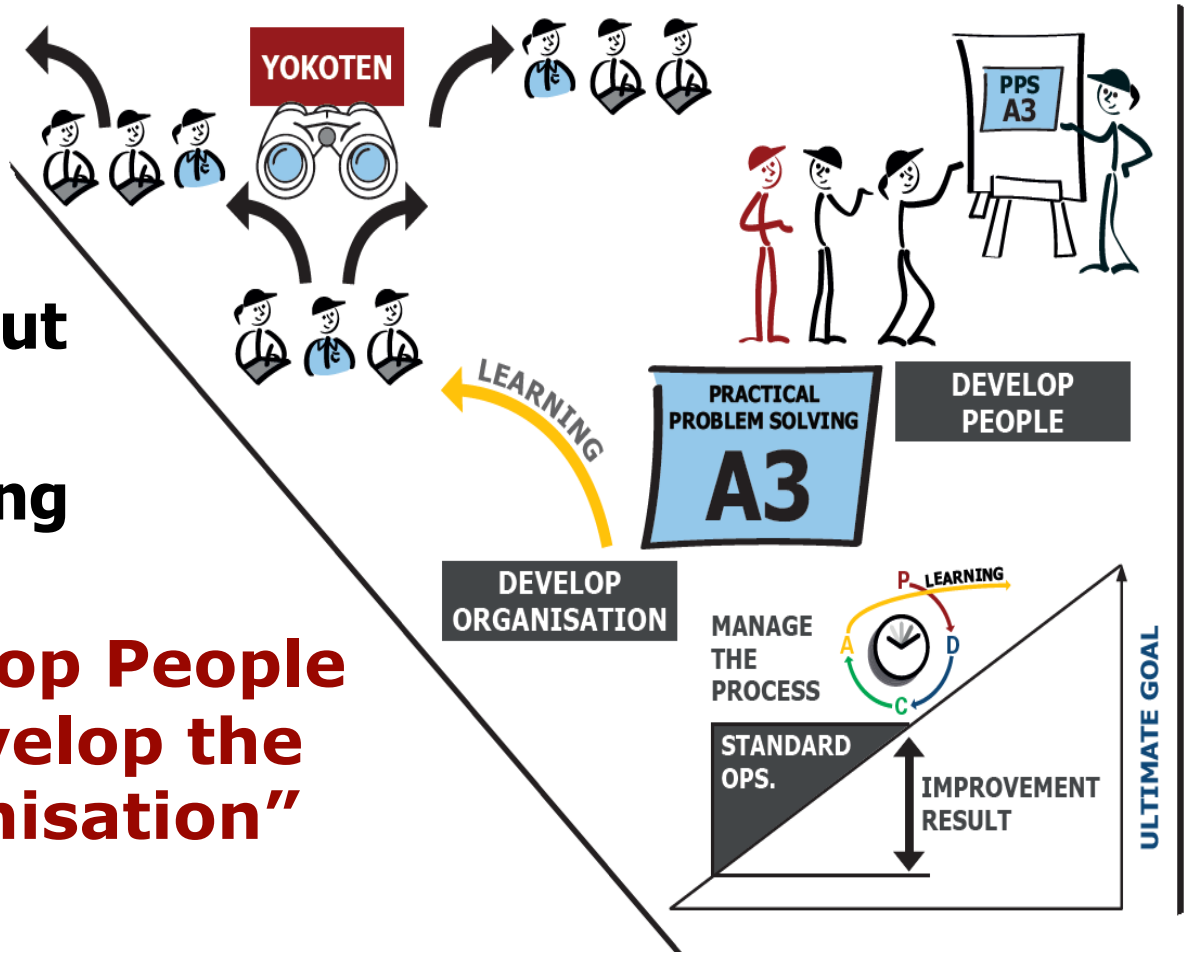


- **Did we meet the Target?**
- **By how did we close the GAP?**
- **What else do we need to do?**

"Can we remove Containment?"

Step 8 – Standardise & Share

- Update Standards to sustain the results
- Yokoten - Share out the Learning
- Summarise thinking using an A3



"Develop People & Develop the Organisation"

Online Course

Overview 8 Step PPS Video

Lean Learning Journey

More Detailed PPS Video Overview Available at www.leanuk.org/Lean Learning

Questions ?

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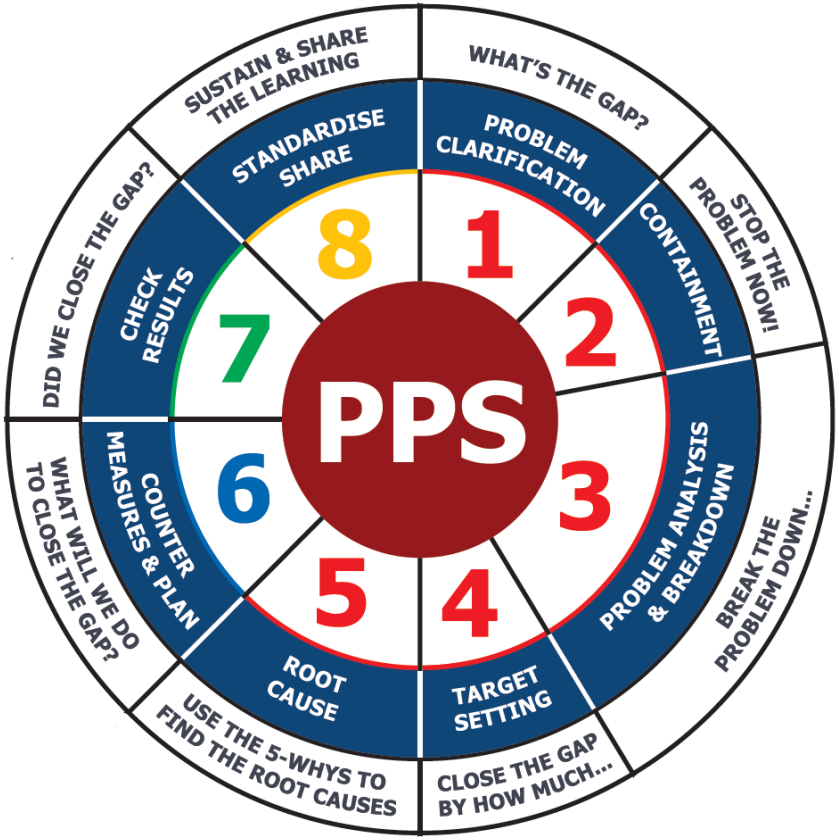
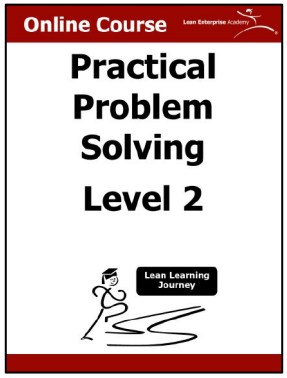
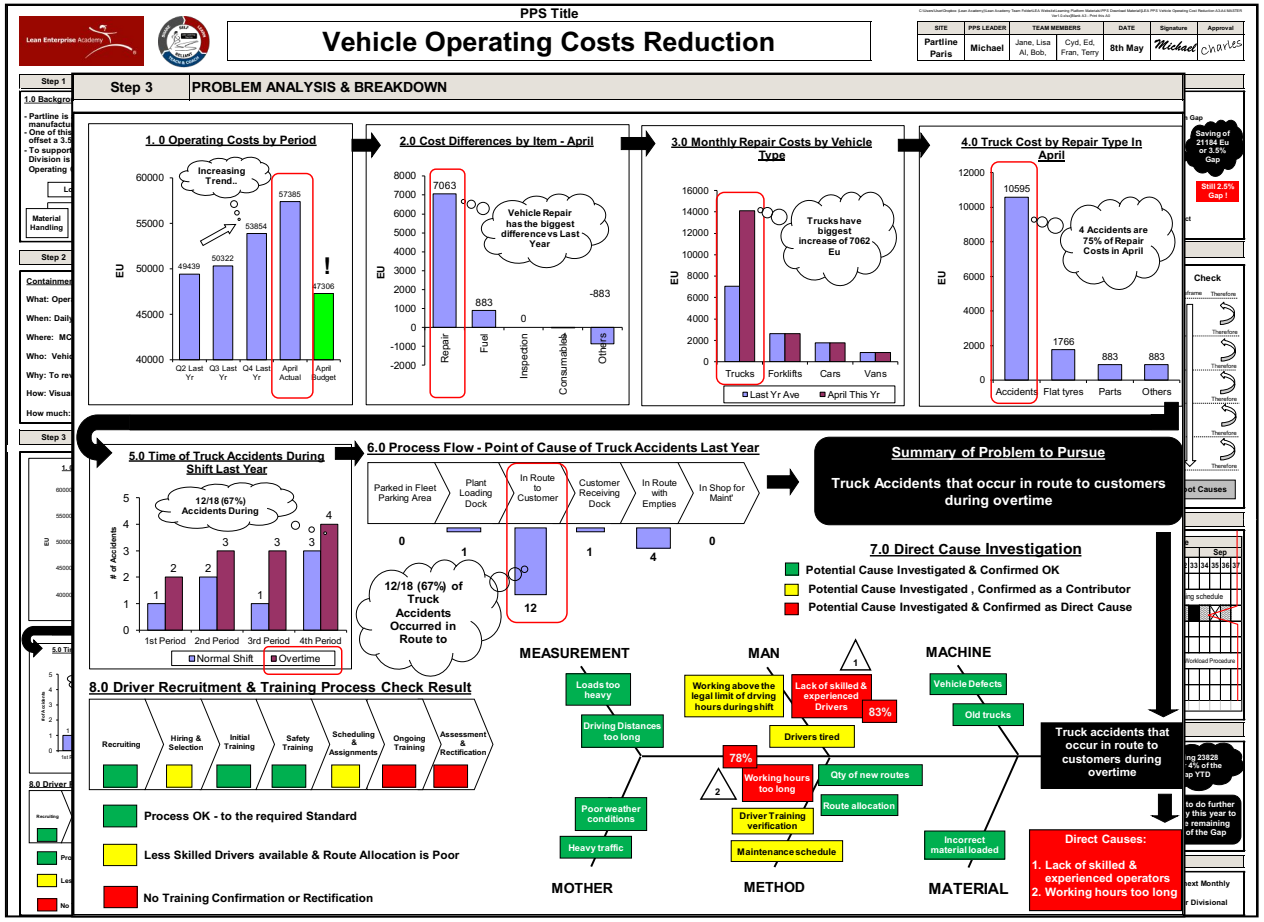
What Questions Do You Have?



PPS A3 – 8 Steps

- **PPS A3 is how we summarise the problem solving journey.**
  - **All 8 Steps are completed.**





PPS A3 – What Good Looks Like

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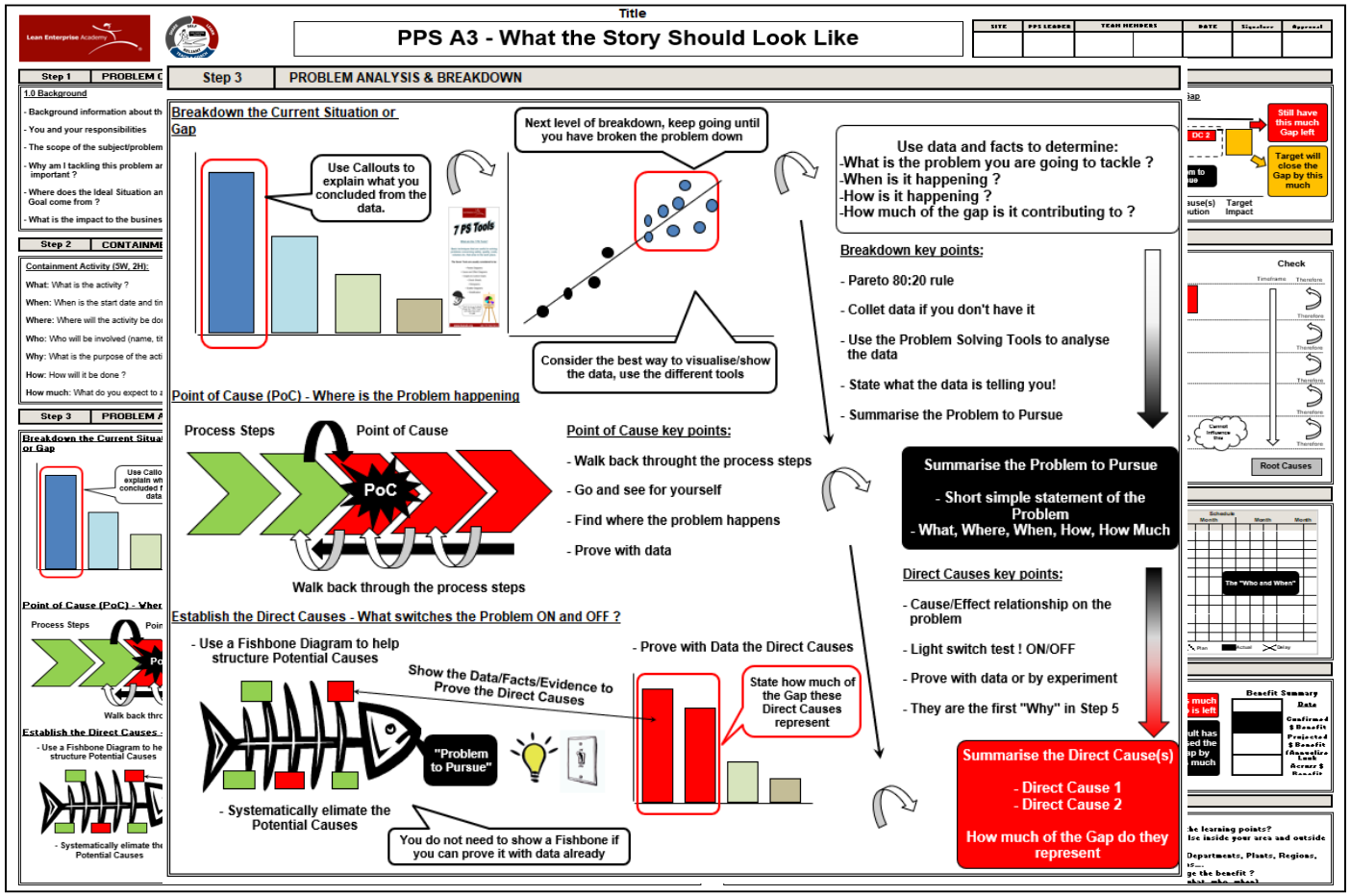
- **PPS A3 What the Story Should Look like .**
- **Visual guidance on creating an A3 PPS Story.**

Online Course

Practical Problem Solving

Level 2

Lean Learning Journey



PPS A3 – Evaluation Method

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- **Evaluation Method for PPS A3's.**
- **Learn how to Teach & Coach PPS & A3's with Us!**

Online Course

Practical Problem Solving

PRACTICAL PROBLEM SOLVING (PPS) A3 EVALUATION CRITERIA

C:\Users\User\Dropbox (Lean Academy)\Lean Academy Team Folder\LEA Website\Learning Platform Materials\PPS Download Material\[PPS A3 Evaluation & Coaching Form Ver4.0.xlsx]PPS Evaluation - Coaching

1.0 Problem Clarification

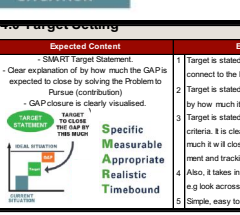
Expected Content		Evaluation Levels		Coaching Questions
- Background / context / why solve this?	1	The Problem is not clearly stated or clarified.	a.	Describe the problem to me in your own words?
- Clarify the Ultimate Goal, Ideal and Current Situation	2	Although the problem is stated it is not clear why it is a problem or why they are tackling it.	b.	What is the impact of this problem on your area or the business?
- Clear Problem Statement			c.	What will be the benefit if we solve this problem?
- Gap clearly visualised	3	Background, gap analysis and problem statement (UG,IS,CS) are complete & it is easy to understand what the problem is and why selected.	d.	Where would you like to be, in the future say, for this KPI?
	4	Inaddition, broader views are stated such as impact on the business, organisational strategy.	e.	Where should we be for this KPI?
	5	Also, the content is simple, clear and easy to share with no explanation.	f.	Where are we currently for this KPI?
			g.	So, what's the difference between the Ideal and Current situation?
			h.	How does this problem affect other Departments/Customers?
			i.	What would happen if we did nothing?
			j.	How did you decide or select this problem?
			k.	Where does the Ultimate Goal come from?

5.0 Root Cause Analysis

Expected Content	Evaluation Levels	Coaching Questions
- Clear link & logical story from Problem to Pursue. -1st Why to the Direct Cause(s) and Root Cause(s).	1 Root cause analysis is insufficient/illogical. 2 Root cause(s) have been specified, but based upon intuition, opinion or pre-conception without adequate investigation - will not stop the problem.	a. What did you learn when you asked "why" five times? b. What specific causes did you discover through your investigation? c. How did you verify the causes? d. So, what do you think happened in terms of the timing or sequence of

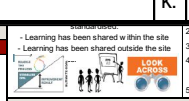
7.0 Target Setting

Expected Content	Evaluation Levels	Coaching Questions
- SMART Target Statement. - Clear explanation of by how much the GAP is expected to close by solving the Problem to Pursue (contribution) - GAP closure is clearly visualised.	1 Target is stated and visualised but does not connect to the Problem to Pursue/Direct Causes. 2 Target is stated and visualised but does not show by how much it will impact on the gap. 3 Target is stated, logical & fulfils the SMART criteria. It is clearly visualised and shows by how much it will close the gap and by when. Management and tracking method is clear. 4 Also, it takes in to account the longer term impact e.g look across potential for the problem/target. 5 Simple, easy to share and understand by anyone.	a. So, tell me what your target is going to be? b. What factors did you consider when setting the target? c. How much do you expect the target to close the gap by? d. How did you determine by "how much" and by "when"? e. How do you plan to manage the target? f. What makes you think that the target if feasible? g. What will be the benefit in the long term if we achieve the target?



8.0 Standardisation

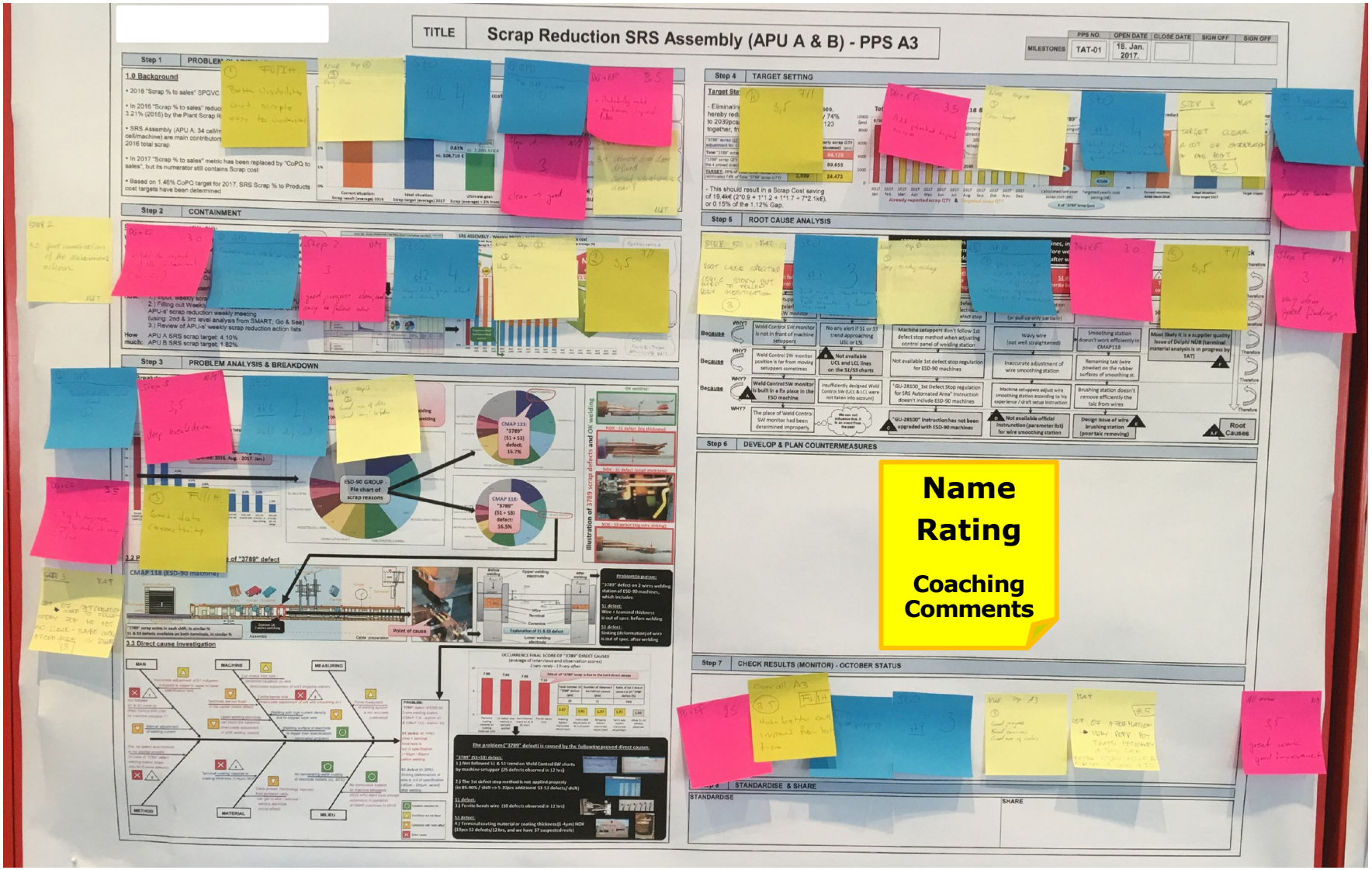
Expected Content	Evaluation Levels	Coaching Questions
- Learning has been shared within the site - Learning has been shared outside the site	2 Considered but little personal action taken. 3 Standardisation/learning completed and shared. 4 Inaddition, organisational standards are/have been reviewed, updated and deployed for future. 5 Also, next level of improvement is planned.	b. What changes will be needed to standardise this? c. What training might be needed? d. Who else would benefit from knowing about this result? e. What did you learn, what are you going to do next? f. What was the Customers feedback when you shared it with them?



9.0 A3 Document

Expected Content	Evaluation Levels	Coaching Questions
- A3 is understandable at a glance - Clear storyline, each step is clear - Visuals, graphics used that simplify facts and data	1 A3 is difficult to read/understand - no logic story. 2 A3 logic story evident, but wordy, not visual. 3 A3 logic story clear, visual and easy to follow. 4 A3 can stand alone as a document. 5 A3 can be used to train others.	a. How might you use graphs/charts/diagrams to make it easier to understand the process you went through? b. Who else could you ask to see if they understand this? c. How can you emphasise the key points you want to make? d. What did you learn from this activity?

PPS A3 – Evaluation Onsite



PPS A3 – Evaluation Online

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PPS A3 Coaching Session Ratings and Progress Summary

Delegate #	Review Sessions		#1										#2										#3										#4										#5									
	Dates		17/12/19										19/01/20										18/02/20										24/03/20										20/04/20									
	Delegate Name	PPS Ratings	PPS STEPS								A3	Average	PPS STEPS								A3	Average	PPS STEPS								A3	Average	PPS STEPS								A3	Average	PPS STEPS								A3	Average
	PPS Title		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8		
#1	David Marriott	*Plan*	*3.0*	*3.0*	*3.0*						*3.0*	*3.0*	*3.0*	*3.0*	*3.0*						*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*				*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
	Vehicle Operating Costs	Actual	1.8	2.4	1.7						2.0	**1.9**	2.9	2.9	2.4						2.5	**2.7**	3.1	3.0	2.9	2.7	2.5				2.8	**2.8**	3.5	3.0	3.1	3.0	2.9	3.0	2.5	2.5	3.0	**2.9**	3.5	3.0	3.1	3.2	3.0	3.0	2.9	3.0	3.3	**3.1**

Notes: Target is to achieve at least an average rating of 3.0 or above to demonstrate capability in the application of the PPS A3 process to solve a problem.
In Reviews #1, #2 and #3 the greyed out Steps are not expected to be evaluated.
The A3 Document must be rated in each Review.

PPS A3 - Coaching Sessions Feedback and Ratings

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Review Session #1 — 17/12/19

Coach Names		David Brunt		Peter Watkins	
PPS Step	Average	Rating	Coaching Comments	Rating	Coaching Comments
1	1.8	2	Background too wordy. No dates on Gap Analysis grpah. Gap not stated.	1.5	Make background clearer with bullet points instead of paragraph.
2	2.4	2.5	When did Containment start?	2.2	What has been the impact and learning from Containment.
3	1.7	1.5	Needs further investigation.	1.8	Still need to define the Problem to Pursue.
A3	2.1	2	Not very visual, lots of words and difficult to read.	2.2	Visuls better, need to wok on flow and logic story.

Review Session #2 — 19/01/20

Coach Names		David Brunt		Peter Watkins	
PPS Step	Average	Rating	Coaching Comments	Rating	Coaching Comments
1	2.9	3	Make background clearer with bullet points instead of paragraph.	2.8	Background too wordy. No dates on Gap Analysis grpah. Gap not stated.
2	2.9	2.8	What has been the impact and learning from Containment.	3	When did Containment start?
3	2.4	2.5	Still need to define the Problem to Pursue.	2.3	Needs further investigation.
A3	2.6	2.5	Visuls better, need to wok on flow and logic story.	2.7	Not very visual, lots of words and difficult to read.

- **Delegate Ratings and Comments are Captured during Online Reviews and Feedback Sessions.**
- **Scores are rolled up in to a Progress Summary.**
- **Evolution of their Capability Development is Captured.**

PPS A3 – Typical Outcome

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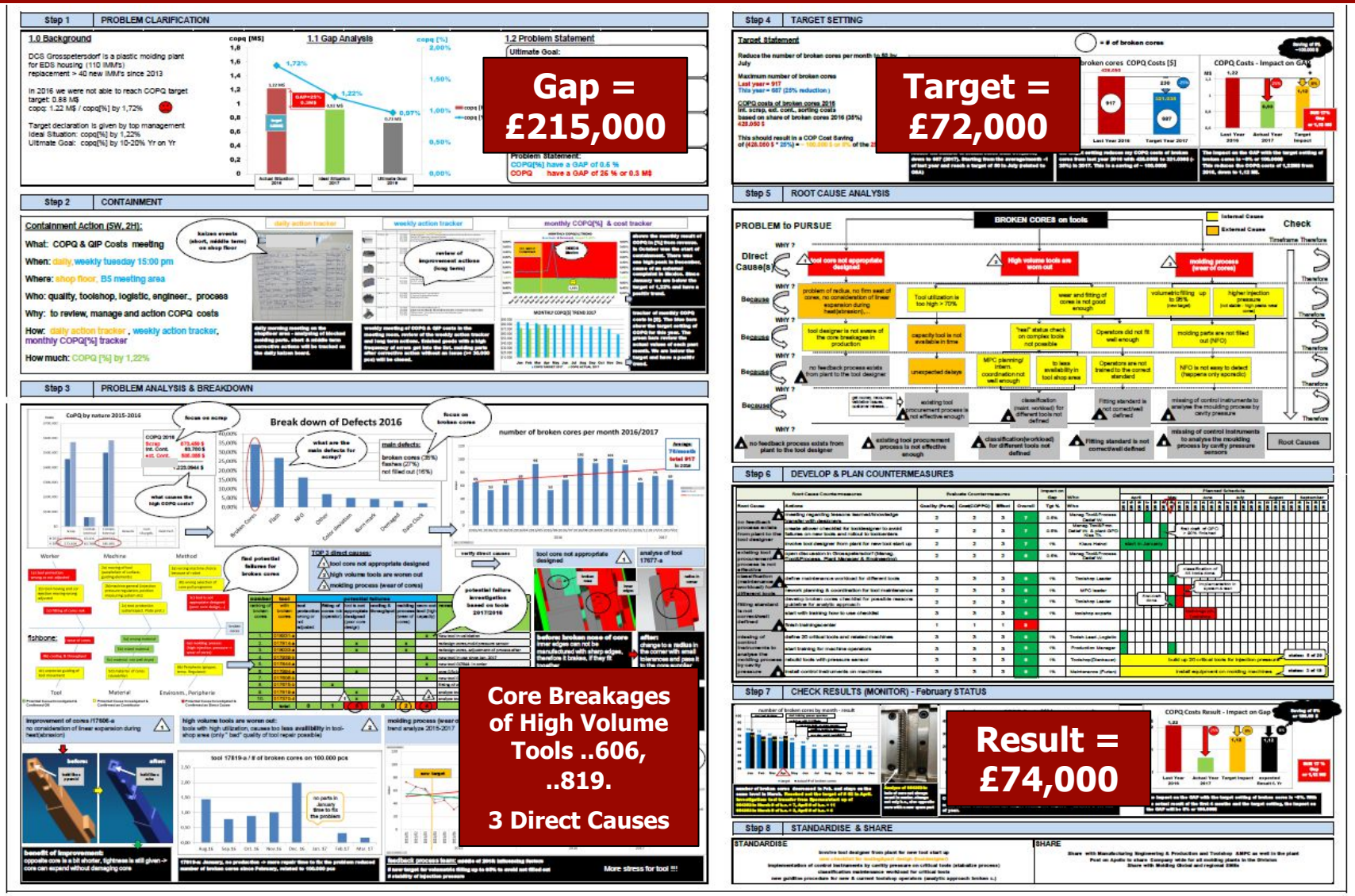

The Elephant in the Room !

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How do you get individuals or organisation's to learn this well ?

Better, Faster & Cheaper

Lean Learning Journey for PPS A3

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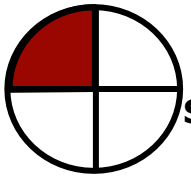
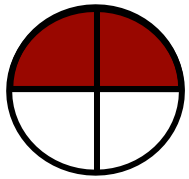
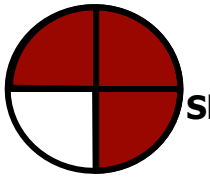


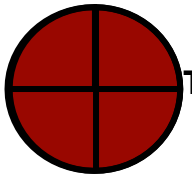
Knowledge
Skill Level 1



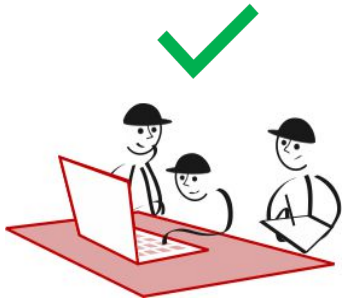
Understanding
Skill Level 2



Capable
Skill Level 3



Can Do Well,
Teach & Coach
others
Skill Level 4

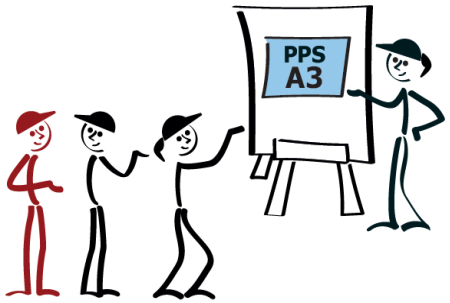


2 hrs
Online Self-Paced

Learn PPS A3 Purpose, Process & People basics

8 - 12 hrs
Online Self-Paced or face to face

Learn PPS A3 8 Steps through Teach Poster & Case Study Practise



6 - 18 weeks
Online or face to face

Coached, evaluated & report out on a real Business Problem using PPS A3 method

6 - 12 months
Face to face or online

Completed multiple A3's
Learn Basic Coaching Skills
Successfully developed two others in PPS A3

Skill Levels 1 – 4 Remote Coaching
A3 8 Step Problem Solving

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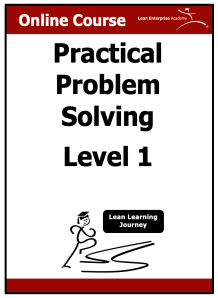
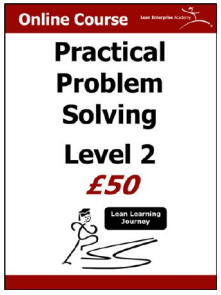
Plan

Teach Sessions

Short burst Learning

Online Homework

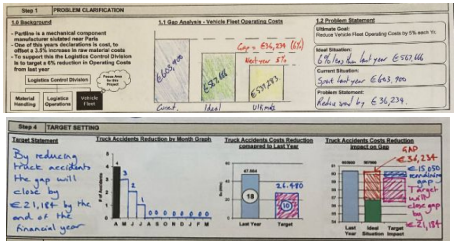




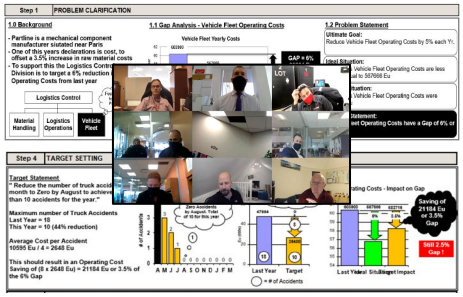
Do

Confirm Learning

Leaders Complete Homework



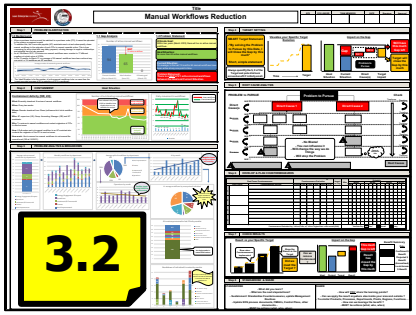
Debrief with Answers



Check

Develop Capability

Coaching on your Actual Problem

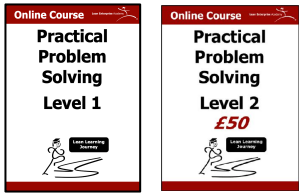


Review & Evaluate Online Together

Act

Teach & Coach Others

Learn how to Teach & Coach Others



Become Self Reliant

Capable – Level 3

Canal & River Trust
Making life better by water

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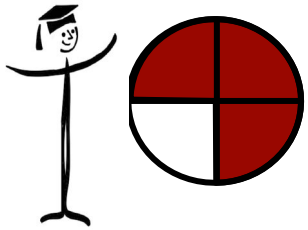
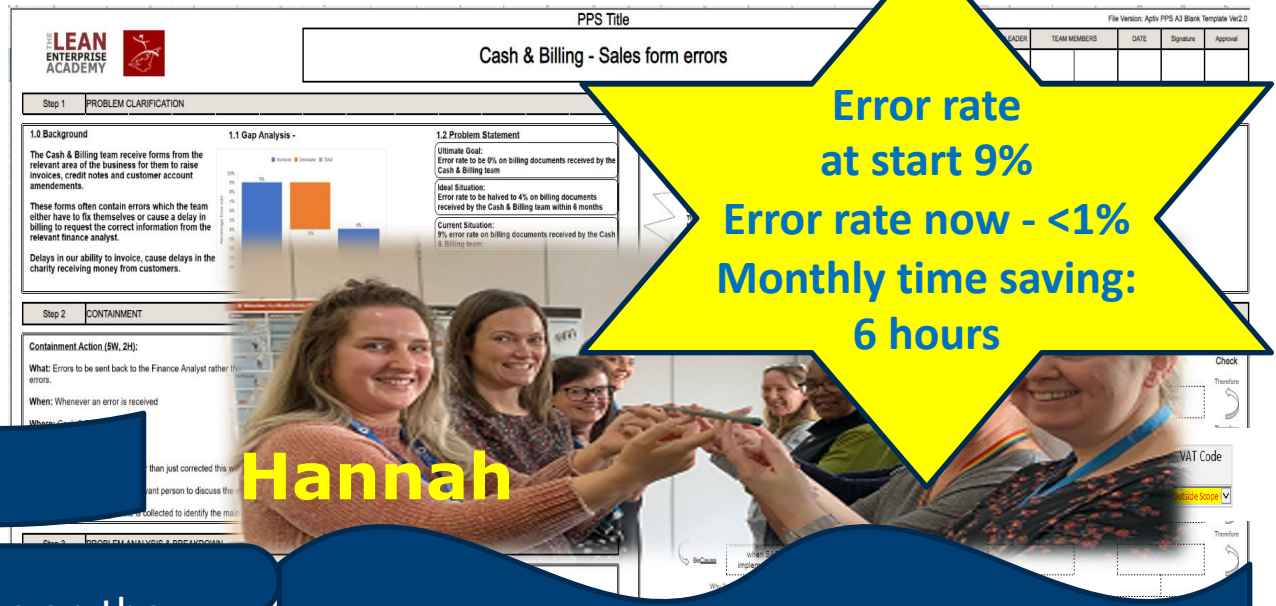


Capable – Skill Level 3



Error rate at start 9%
Error rate now - <1%
Monthly time saving: 6 hours

Key Learnings:

- Easy to jump to conclusions on the cause of an issue, this way allows us to focus our efforts in the right place
- Working as a team and cross teams support is necessary
- Can be a challenge to change the "blaming" etc, but good results happen when we manage it

Benefits:

- Allowed a mindset change from "having a moan" to "how can we work to find solutions"
- Empowered teams to see they can implement improvements
- Reduction of error rate from 9% to less then 1% which relieves frustrations & time in the process

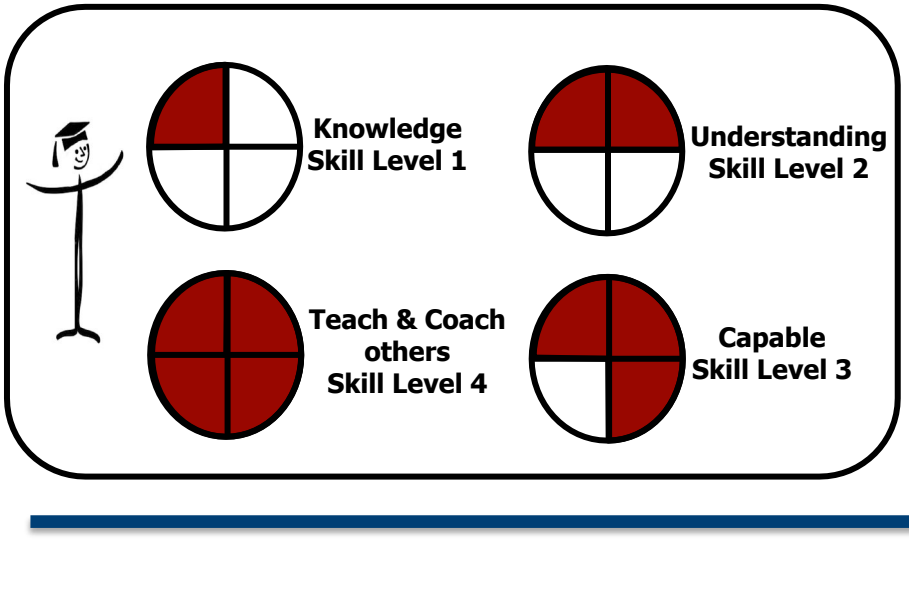
Summary

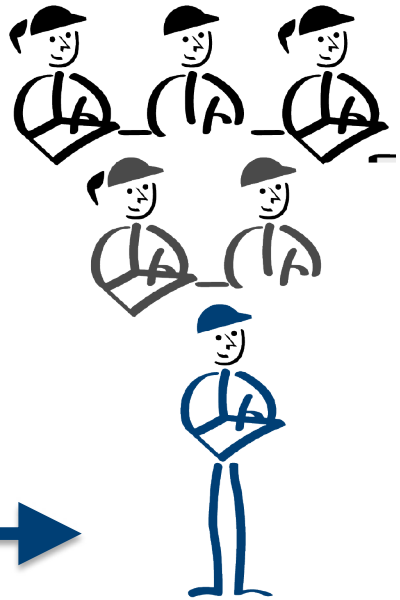
Lean Enterprise Academy

Our Purpose:

We are a not for profit organisation, established to help customers become self-reliant on their lean journey. Through research, products and services we provide better, faster and cheaper ways to learn and improve.

Our Approach:

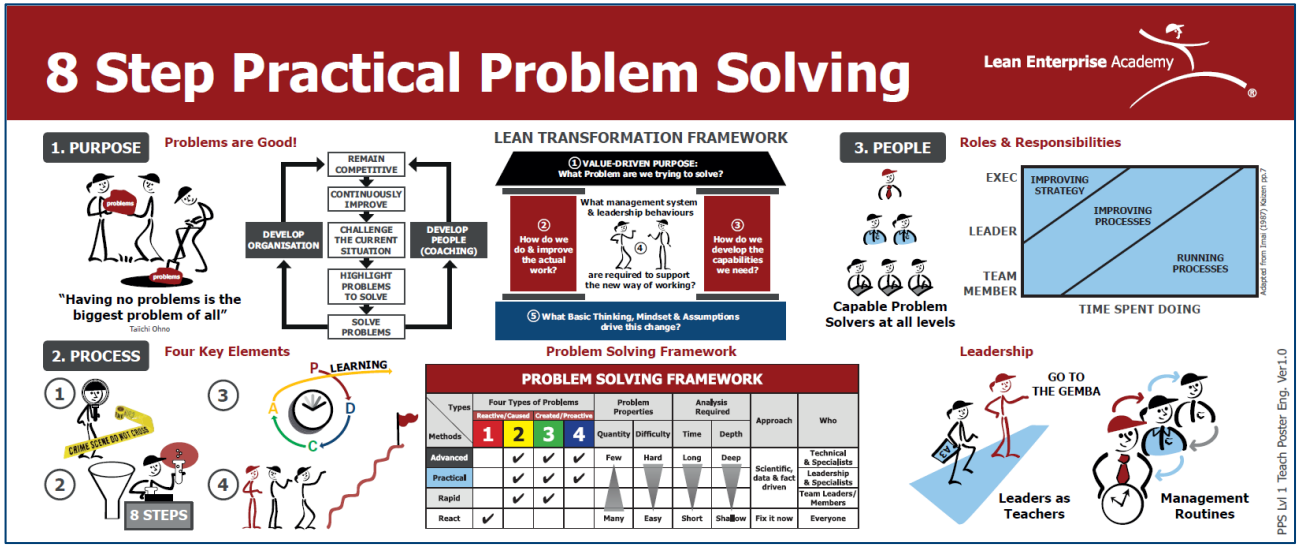




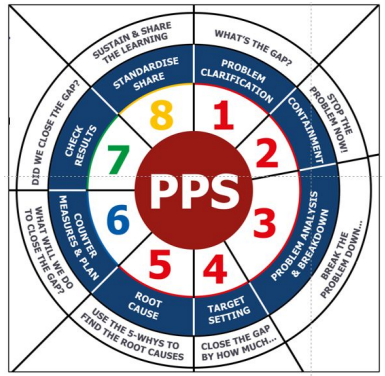
Develop capability to teach others – cascade the learning

Summary

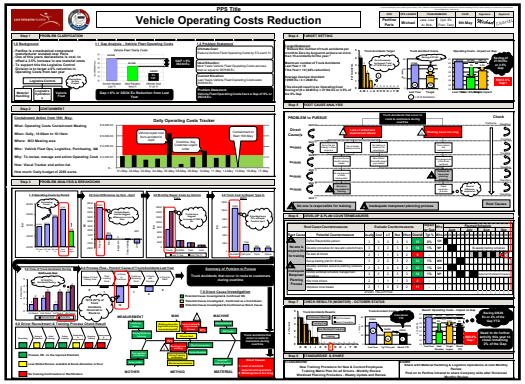
Introduction to Problem Solving

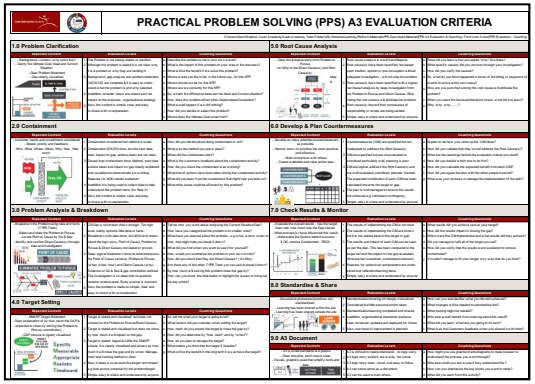


8 Steps Overview



PPS A3 and Evaluation Method





What Questions Do You Have ?

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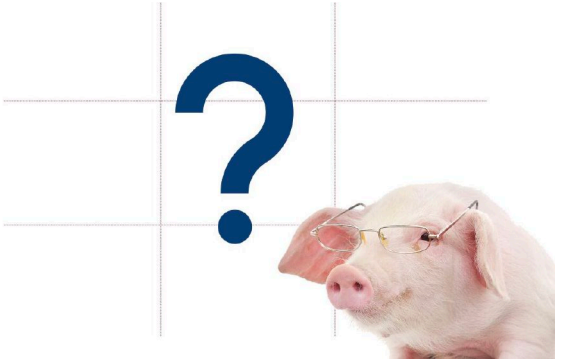
Our Next Webinar Topic:

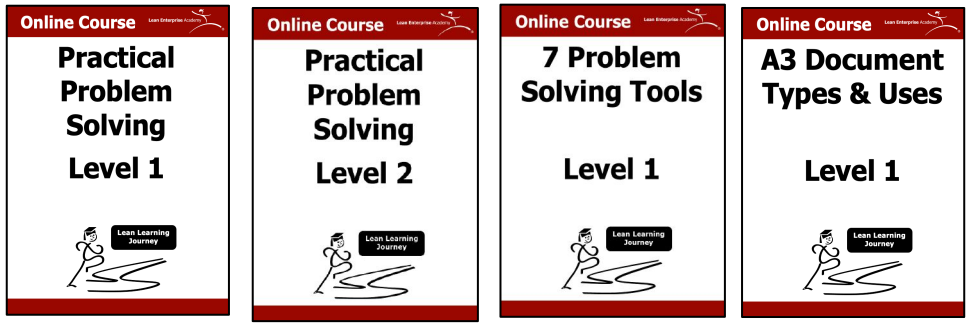
Lean Standardised Work

28th April 3:30pm UK time

Visit: www.leanuk.org/Events

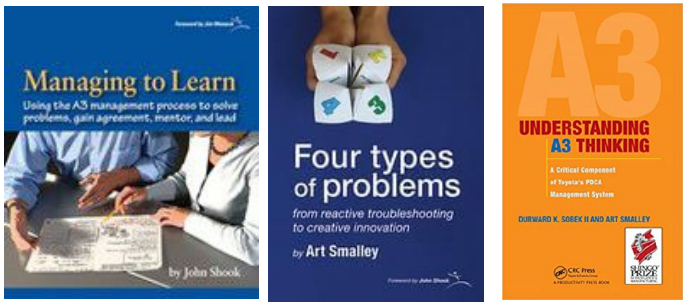


Our Online Courses:



www.leanuk.org/lean-learning

Books on Problem Solving:



www.leanuk.org/shop

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