

Operations Excellence

through

TPM & Lean (TPM³)

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Activity 2

Using Cross-functional Teams in the Workplace



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Activity 2

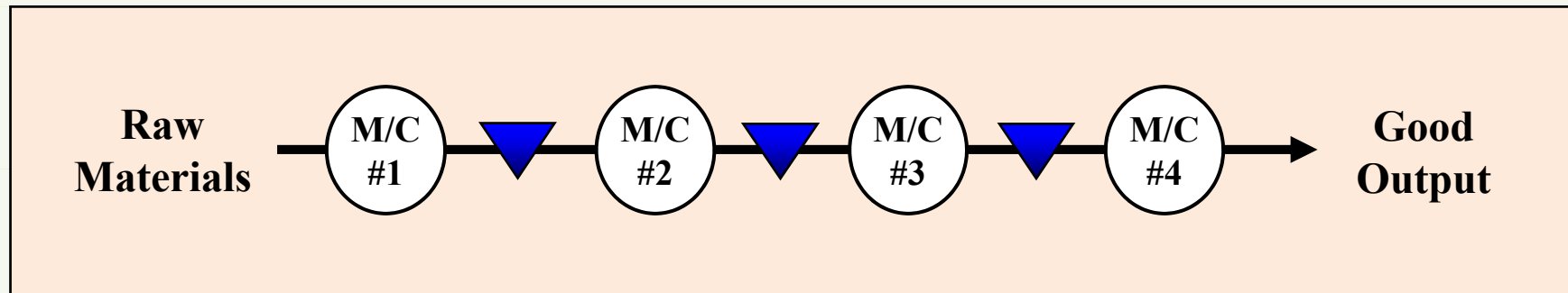
Using Cross-functional Teams in the Workplace

Focused Equipment & Process Improvement (FE&PI)

1. Cross-functional vs Area Based Teams
2. Purpose of the FE&PI Activity
3. A Cross-functional Team Approach
4. Types of Cross-functional Teams
5. Starting Point
6. Learning from Successful Teams

Cross-functional Team vs Area Based Teams

Defined Production Area (DPA)



Cross-functional Team:

- 1 Supervisor for area
- 1 Team Leader
- 1 or 2 Operators
- 1 or 2 Trades people
- 1 or 2 Tech Support person
- 1 Leadership Team member

Purpose: Problem solving

Area Based Team:

- 1 Team Leader
- Operating team (3-7 people)

Purpose:

Visual workplace /
Prevention at Source

TPM³ Framework for TPM & Lean

incorporating 10 Improvement Activities supported by the Leadership Base

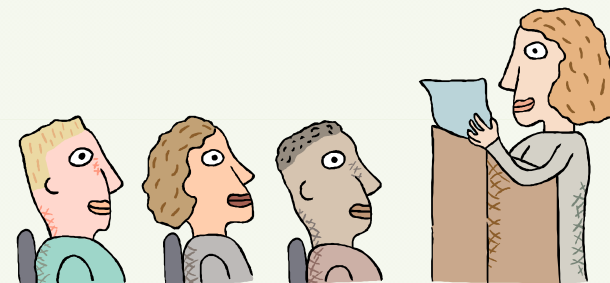
1. Safety & Environment Management
10. Process Quality Management



P = Production; PS = Production Support; CF = Customer Focus



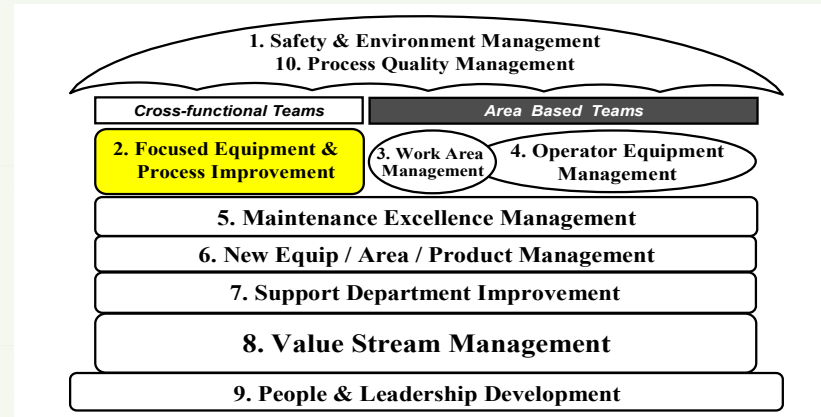
Ask the Audience



Question 1

Who has participated in workplace Cross-functional improvement teams?

1. Yes and found it valuable
2. Yes and didn't find it valuable
3. No



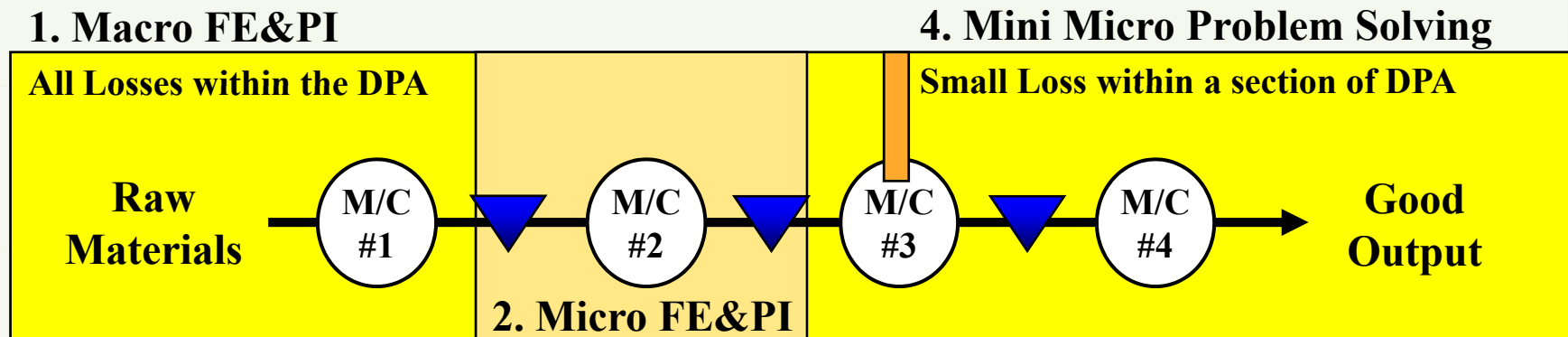
Why use Cross-functional (FE&PI) Teams?

Do you need to:

1. Better understand all Equipment and Process Losses?
2. Develop the Pro-active Problem Solving skills of your personnel?
3. Create time for Area Based Team improvement activity to develop Operator 'Prevention at Source' skills?
4. Improve relationships between Departments (eg Production and Maintenance)?
5. Improve relationships between Management and Workforce?

Types of Focused Equipment & Process Improvement Teams

Defined Production Area (DPA)



All Losses across a section of the DPA

OEE Losses:

Planned Downtime

Set-up Downtime

Unplanned Recorded Downtime

Reduced Speed

Minor Unrecorded Stoppages

Rejects & Rework

Start-up & Yield

3. Special Micro FE&PI

Specific Loss across the DPA

Overview of Focused Equipment & Process Improvement Teams

Type	Focus
<i>1. Macro</i>	Defined Production Area
<i>2. Micro</i>	Specific Section of Defined Production Area
<i>3. Special Micro</i>	Specific Loss / Waste eg Set-up Downtime
<i>4. Mini Micro</i>	Small Loss / Waste

Make-up	4-8 members from different disciplines
Skills	Develop Problem Solving skills
Impact	Understand and improve losses and frustrations
Meeting Time	1 to 1.5 hours at a regular fixed time
Support Time	1 to 1.5 hours between meetings
Culture Impact	Build relationships
Life of Team	Up to 12-14 week cycle then disband

Where do we start?

The Role of the Site Leadership Team is to select the area of focus

- Divide Site into Defined Production Areas
- Select at least 2 Defined Productions Areas where there is the biggest opportunity to impact on site performance
- Ensure there is consensus agreement by the Site Leadership Team

Defined Production Area

- Able to measure OEE (eg Good Output)
- Have at least 4 permanent personnel working in the area each shift to allow the future formation of Area Based Teams

The Objectives of Macro Focused Equipment & Process Improvement

Tangible

- Establish a Baseline or “stake-in-the-ground” by documenting current performance and establishing an ongoing measurement system;
- Identify all equipment & process losses and wastes (including all unplanned interventions) for the Defined Production Area;
- Create a 3-year Vision of ‘Could-Be’ performance based on documented assumptions using the OEE Improvement Matrix template;
- Improve OEE by at least 25% (or other agreed stretch target) while also improving or maintaining the Goal Aligned Performance Measures;
- Recommend further improvement initiatives involving Cross-functional Teams (Micro, Special Micro, Mini Micro) and Area Based Teams (Work Area Management / Operator Equipment Management) so as to achieve the 3-year Vision identified above; and
- Complete within 12 weeks after kick-off.

The Objectives of Macro Focused Equipment & Process Improvement

Intangible

- Create a positive environment to allow people from different departments to gain a greater understanding of each other's situation and build relationships;
- Create a positive environment to allow management and workforce to gain a greater understanding of each other's situation and build relationships;
- Reduce the frustrations and free up time of all people in the area so that there will be a desire (pull) to establish Area Based Teams and introduce formal on-going improvement activities involving all the workforce on all shifts through Work Area Management and Operator Equipment Management;
- Provide a foundation of loss analysis to allow the Site Leadership Team the opportunity to create further Cross-functional Teams to address outstanding technical related losses or wastes; and
- Promote learning within the workplace and to allow personnel to experience the success and value of being Cross-functional Team members and develop their team working and problem solving skills.

Typical Macro Focused Equipment & Process Improvement Team Structure (6-8)

- 1 Supervisor for Area (staff) - Lead the Team
- 1 Team Leader for Area (wages)
- 1 Operator
- 1-2 Maintainers responsible for area (Mech & Elect)
- 1-2 Tech Support responsible for area (provide horsepower for analysis)
- 1 Leadership Team Member

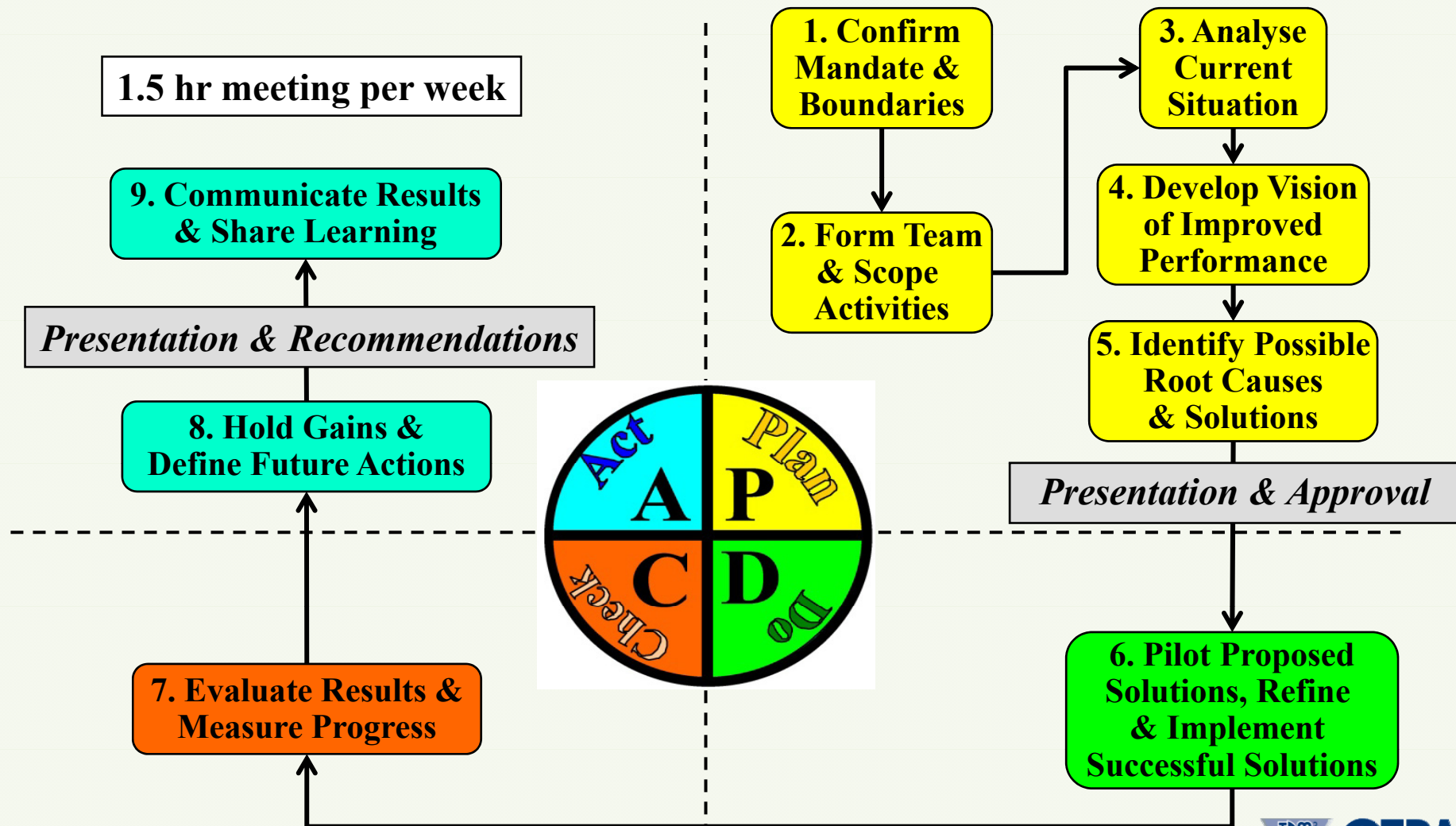
TPM³ Co-ordinator

CTPM Navigator

Macro Focused Equipment & Process Improvement

9 Step Process

Typically a half-day kick-off followed by a 12 meeting cycle based on the P-D-C-A wheel



Macro Focused Equipment & Process Improvement

9 Step Process

Typically a half-day kick-off followed by 12 meeting cycle based on the DMAIC wheel

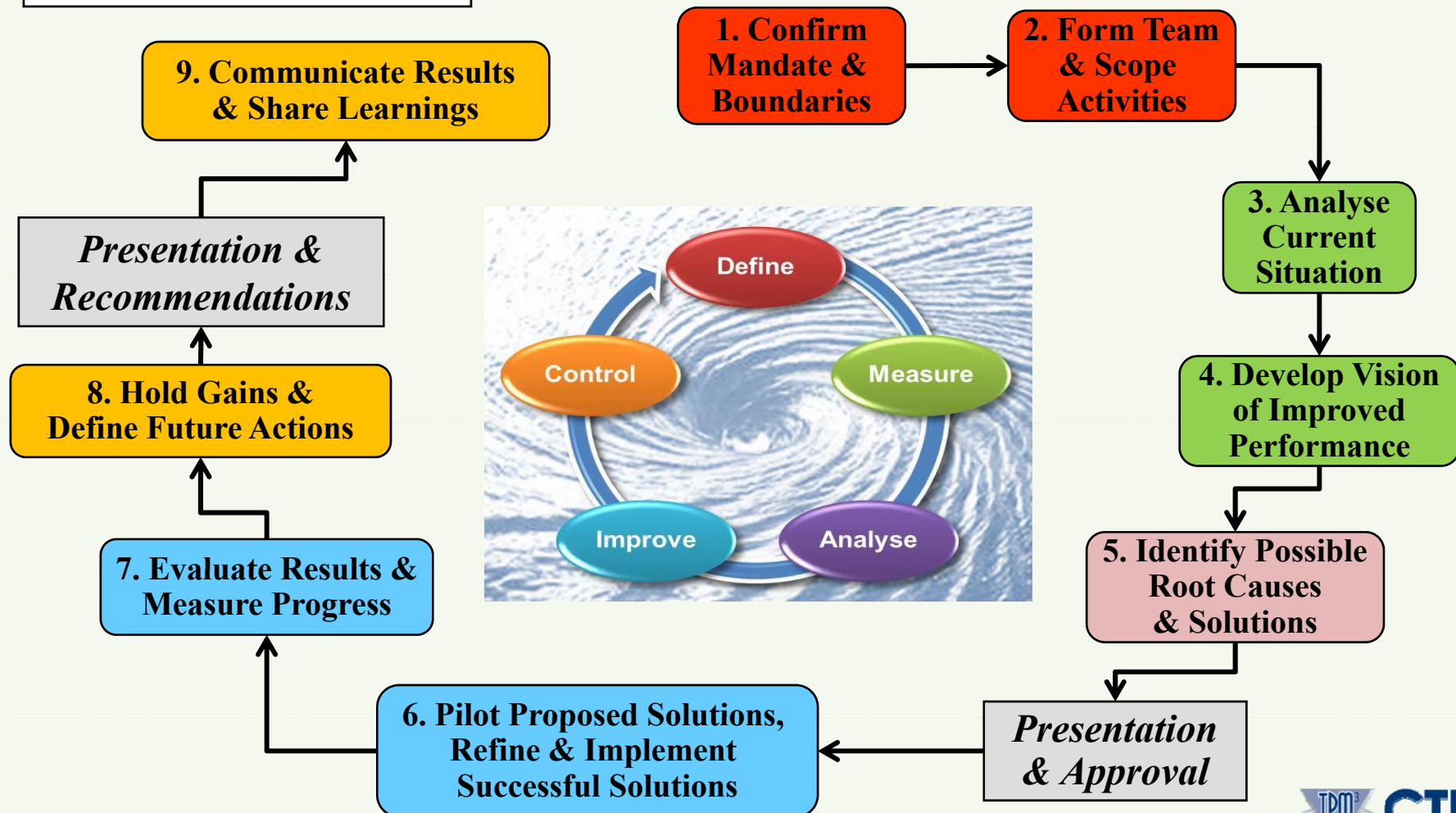
P-D-C-A	CTPM 9 Step Process supported by Team Member Manual	D-M-A-I-C
Plan	1. Confirm Charter (Mandate & Boundaries)	Define
	2. Form Team & Scope Activities	
	3. Analyse Current Situation	Measure
	4. Develop a Vision of Improved Performance	
	5. Identify Possible Root Causes & Solutions	Analyse
	<i>Mid-way Presentation to Leadership Team</i>	
Do	6. Pilot Proposed Solutions, Refine & Implement Successful Solutions	Improve
Check	7. Evaluate Results & Measure Progress	
Act	8. Hold Gains & Define Future Actions	Control
	<i>Final Presentation to Leadership Team</i>	
	9. Communicate Result & Share Learning	

Macro Focused Equipment & Process Improvement

9 Step Process

Typically a half-day kick-off followed by a 12 meeting cycle based on the DMAIC wheel

1.5 hr meeting per week



Macro Focused Equipment & Process Improvement

Step 3: Analyse Current Situation - Key Tasks

- *Future Analysis*
- *Process Map Analysis to Highlight Variables*
- *Baseline Analysis*
- *Equipment Analysis (Operator Survey)*
- *Knowledge Base Analysis*
- *OEE Loss Analysis*
- *Cost Reduction Analysis*
- *Other Loss Analysis*
- *Review of Analysis*

Learnings from Successful Macro Focused Equipment & Process Improvement Teams

- Involve everyone who works in the Defined Production Area through surveys and weekly briefing
- Listen to everyone who supports the Defined Production Area
- Be prepared to learn from education, demonstration, doing and reflection
- Follow the structured approach with set timeframes
- Review mandate at the Mid-way Presentation based on the facts and data collected to date
- Be guided by your Facilitator and Navigator

Key Messages

1. Cross functional teams are great for problem solving and the skill development of people,
2. Always make sure there is a mandate, a process and a fixed timeframe for the team activity,
3. Ensure that you have the appropriate number of people and skills on a team to be successful
4. Make sure that everyone in the area is involved in the improvement process

Vertical vs Horizontal Development of your People

Vertical Development

Opportunity to work with people at different levels in their organisation to appreciate and respect different views and knowledge while solving problems



Horizontal Development

Opportunity to work with people within an Area Based Team (people at the same level in their organisation under a common leader) to create a synergistic mature team that achieves zero breakdowns, zero quality problems and zero accidents or incidents



Vertical vs Horizontal Development of your People

Vertical Development

Opportunity to work with people at different levels in their organisation to appreciate and respect different views and knowledge while developing problem solving skills



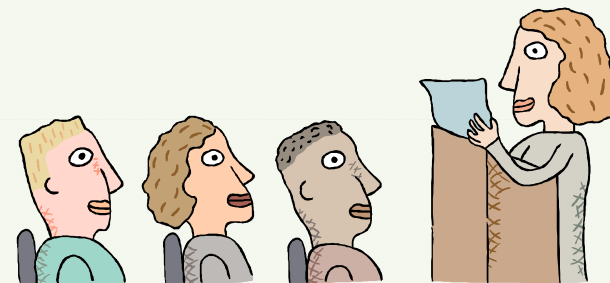
Horizontal Development

Opportunity to work with people at the same level in their organisation under a common leader to develop visual workplace and prevention at source skills (so as to identify and stop problems at the earliest possible time)





Ask the Audience



Question 2

Would you want to work in a cross functional improvement team again?

1. Yes
2. No
3. Not Sure

How can we help?



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Question Time