

Operational Excellence

through CTPM's People Development focused approach to

TMP & Lean/CI



Webinar 39
Tuesday, 21 June 2016

**An improved approach to 5s especially
for multi-shift operations**



Presentation by:
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CTPM Director

Welcome & Outline of Presentation

An improved approach to 5s especially for multi-shift operations:

1. Understanding the real purpose of 5s
2. Engaging people through emotive questioning
3. Developing People & Teams
4. Using 5s to improve communications between shifts

1. Understanding the real Purpose of 5s



1. Understanding the real Purpose of 5s

It's more than making the Workplace look Good!



**Waste of
Transport**



Errors

**Waste of
Motion**

**Eliminating
Waste**

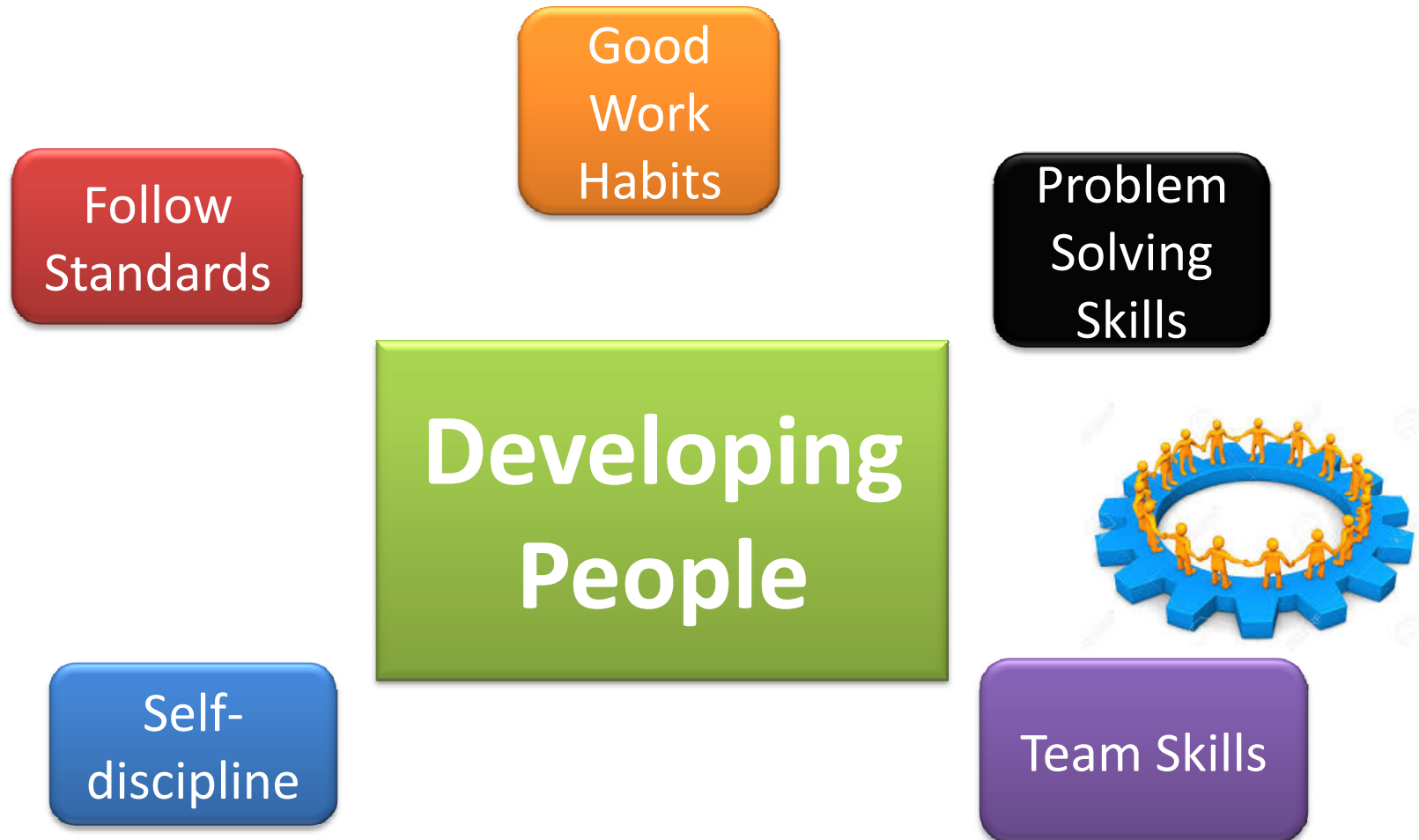
**Injury
Prevention**



Defects

1. Understanding the real Purpose of 5s

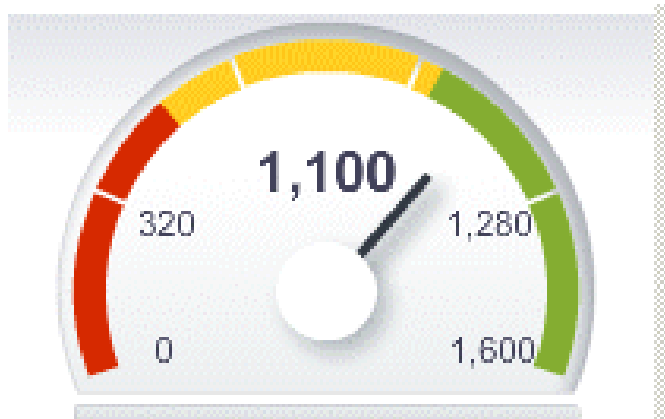
It's more than making the Workplace look Good!



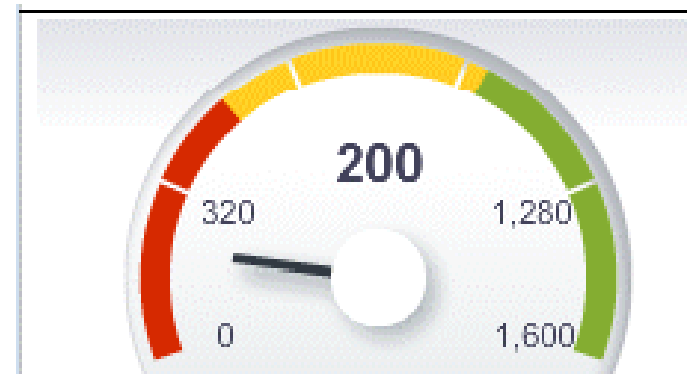
1. Understanding the real Purpose of 5s

It's more than making the Workplace look Good!

Expose Problems



Normal



Abnormal

1. Understanding the real Purpose of 5s

The 5s Process



2. Engaging people through emotive questioning

Workplace Culture Implications

Communication, Engagement, Problem Solving

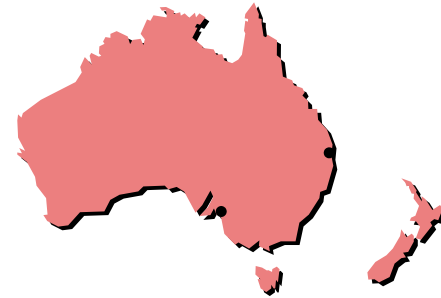


Japanese Workplace

Single Culture – all Japanese

Do as requested

Address Root Causes



Australia & NZ Workplace

Multi-cultural – ‘united nations’

What’s in it for Me

Working with Australian Ingenuity
(work around problems)

2. Engaging people through emotive questioning

**Inductive approach to 5s is to address the
What's In It For Me (WIIFM)
through Emotive Questioning;**

**We are commencing a Corporate 5s program to
clean & organise all work areas to make our site a
more efficient workplace**

(Deductive or Push)

Vs

**Do you ever get frustrated because you can't find
something when you are about to do a task?**

(Inductive or Pull)

3. Developing People & Teams

Key Learning's on how to use 5s to Develop People and Teams

1. Everyone to be directly involved during normal work hours
2. Boundary Management
3. Focus Points

3. Developing People & Teams

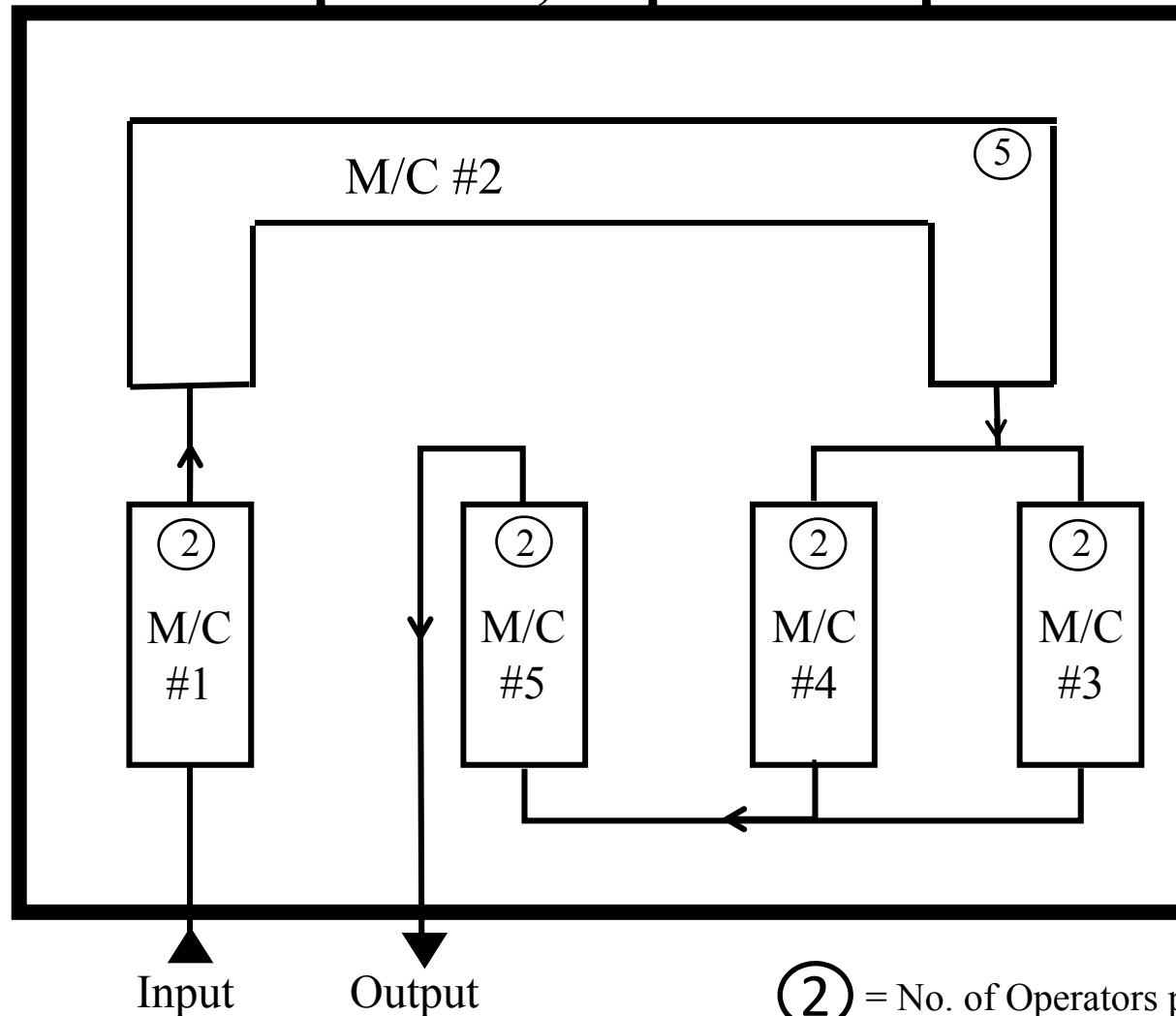
1. Everyone involved and during normal work hours

- If you work in the area/machine, you must be involve directly in 5s and have a say.
- Formal CI/TPM/Lean improvement activity should be predominately conducted during normal work hours, Therefore...
- All personnel to be spending approximately 5% or 2 hours per week doing formal improvement activity.

3. Developing People & Teams

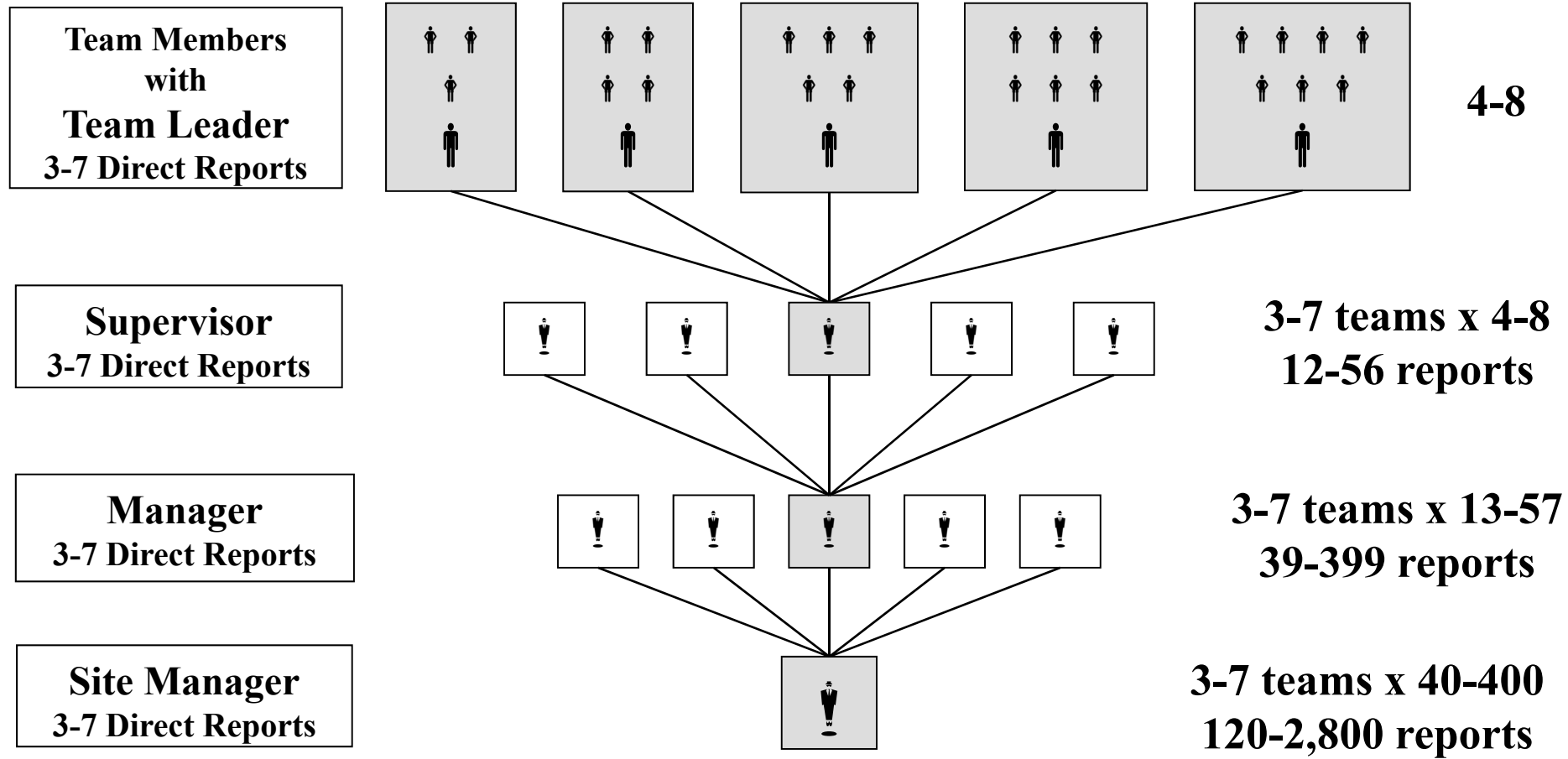
Example Defined Production Area

3 Shift Operation, 13 personnel per shift



3. Developing People & Teams

Organisation Structure that supports CI through Area Based Teams of 4-8



Adapted from: The Toyota Way by Jeffrey K Liker
Fig 16-2. Typical Toyota Organisation

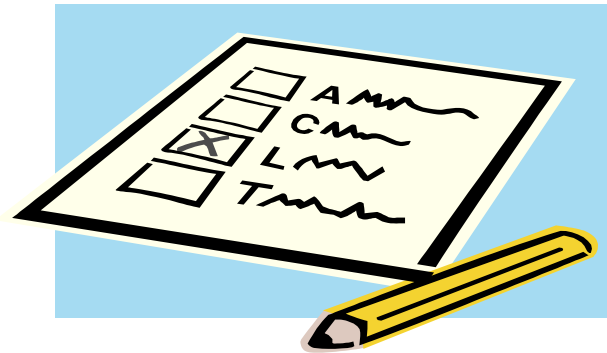
3. Developing People & Teams

The Role of the Supervisor and Frontline Leader

A Constraint to TPM & Lean / CI Success

	Mass Production	Lean Production	Your Site
Task / Tech	80%	20%	? %
Process/Methods	15%	40%	? %
People Devel	5%	40%	? %

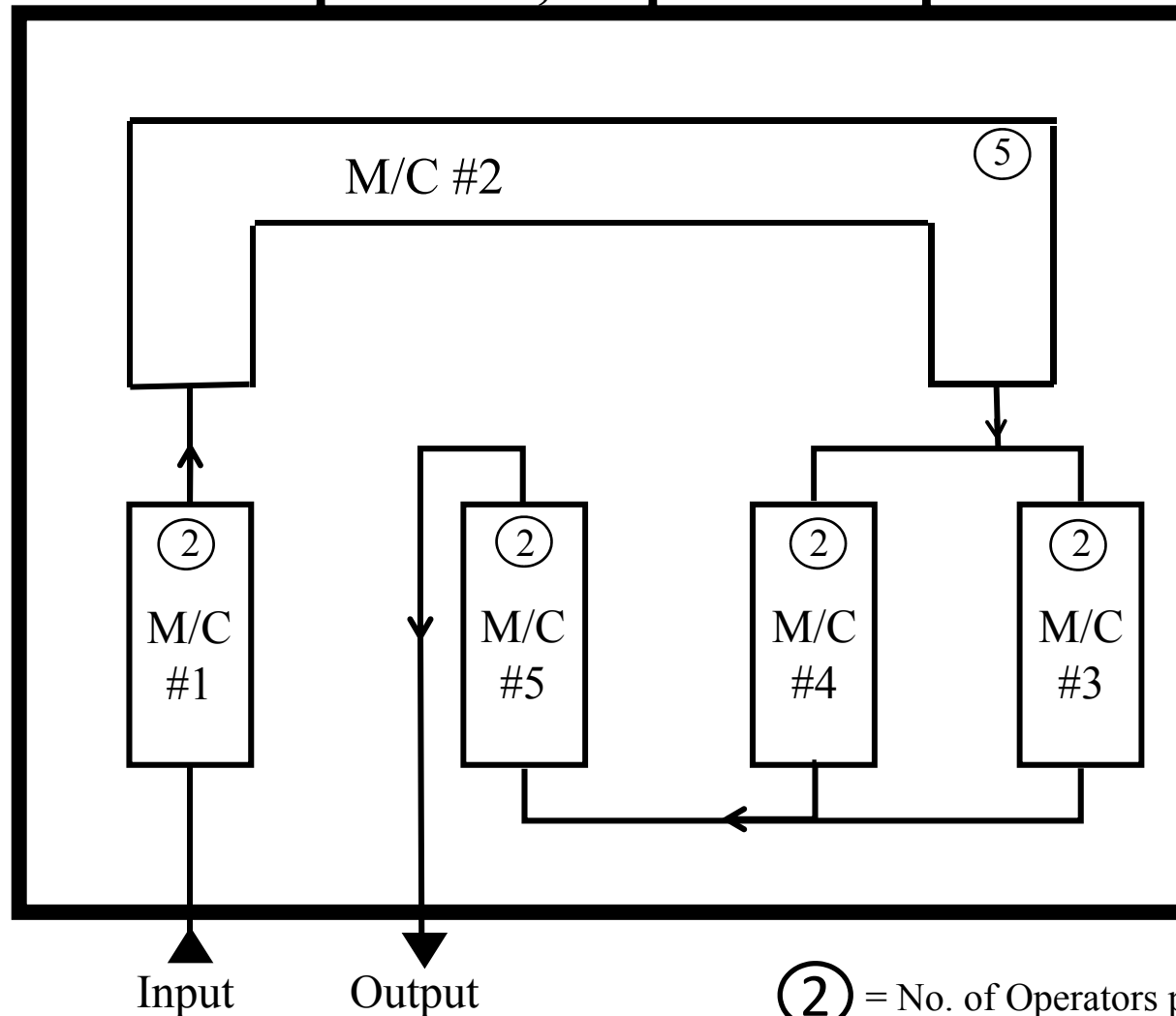
Time for a Poll



3. Developing People & Teams

Example Defined Production Area

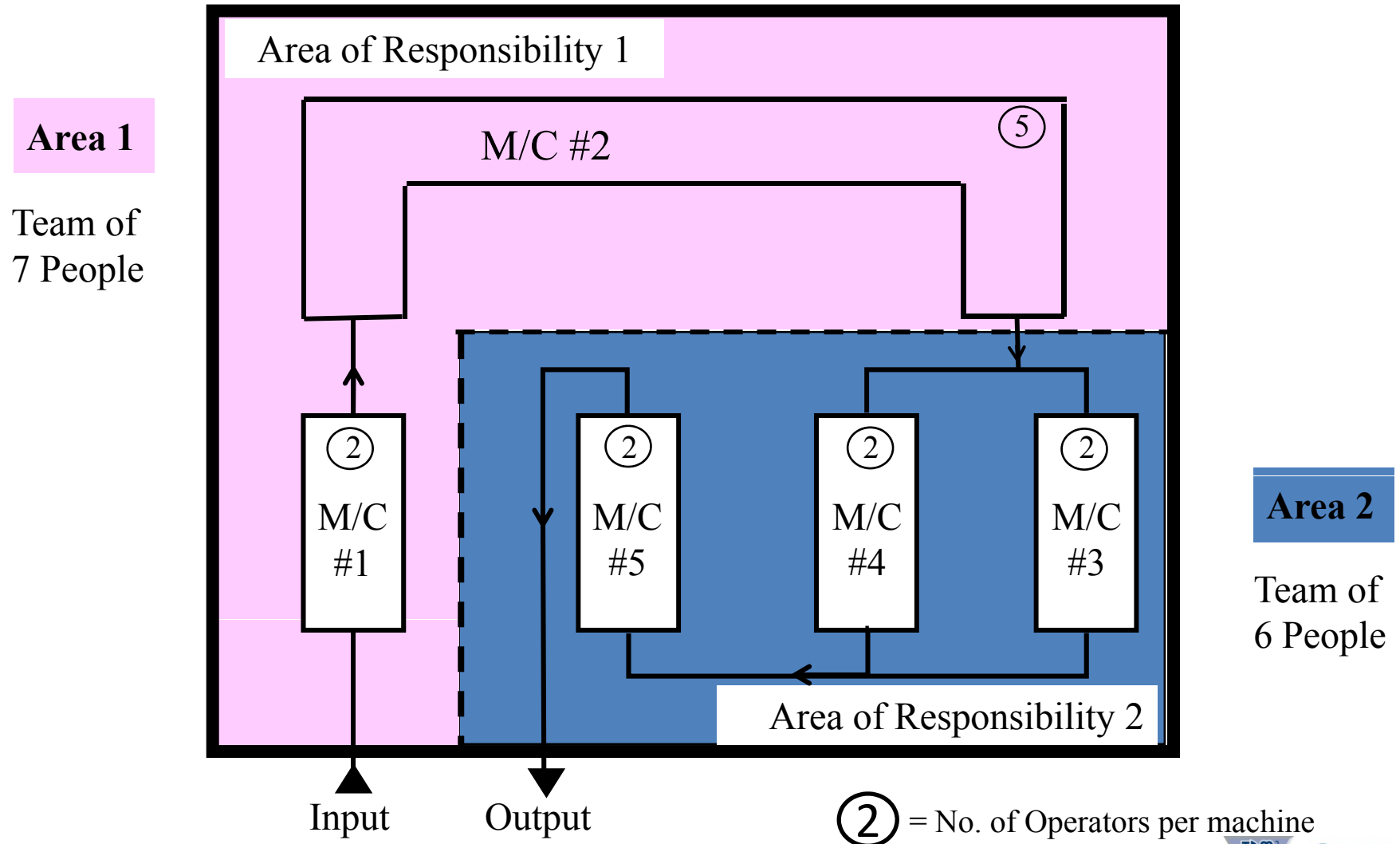
3 Shift Operation, 13 personnel per shift



3. Developing People & Teams

Example Defined Production Area

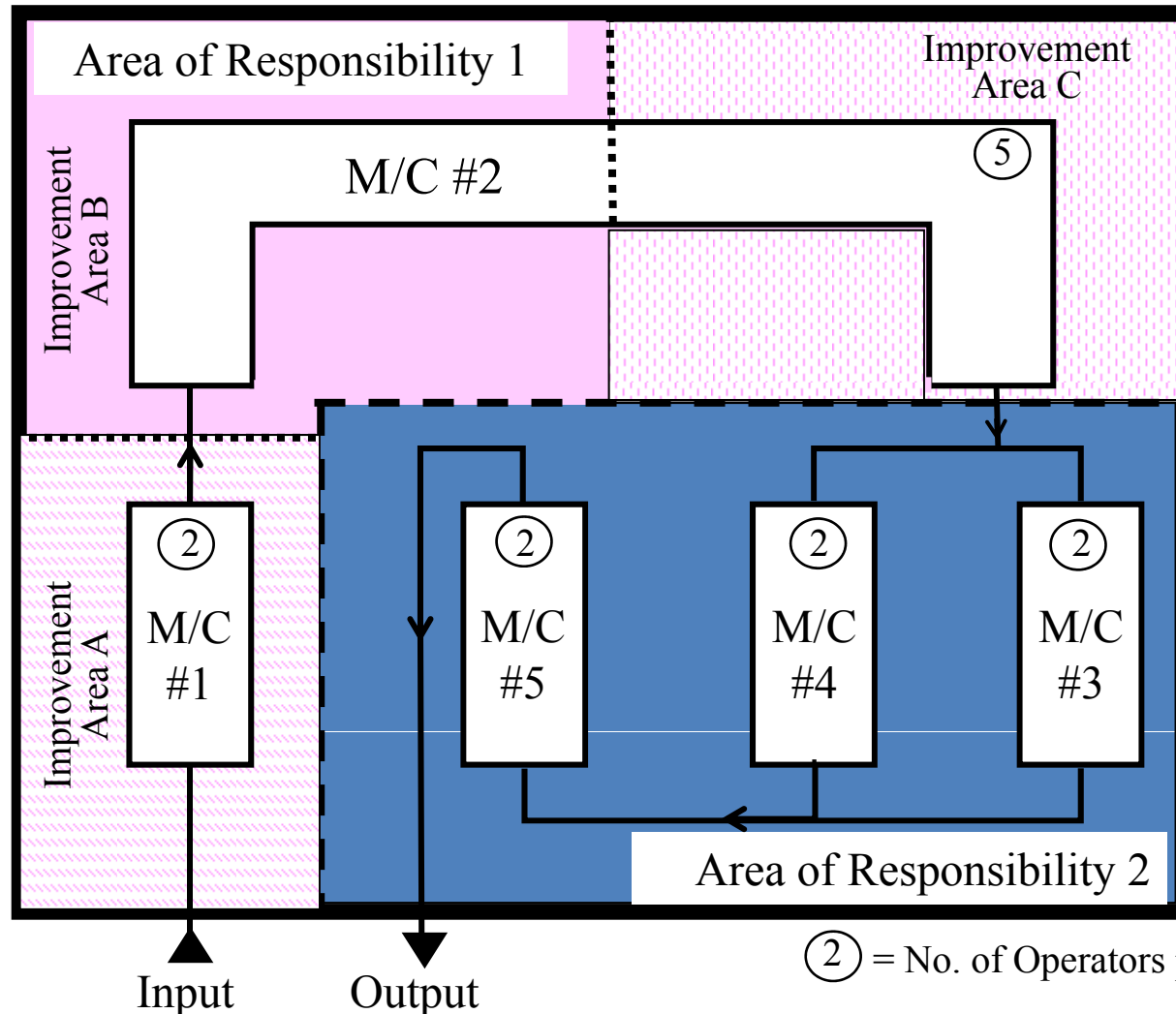
3 Shift Operation, 13 personnel hence 2 Areas of Responsibility



3. Developing People & Teams

Example Defined Production Area

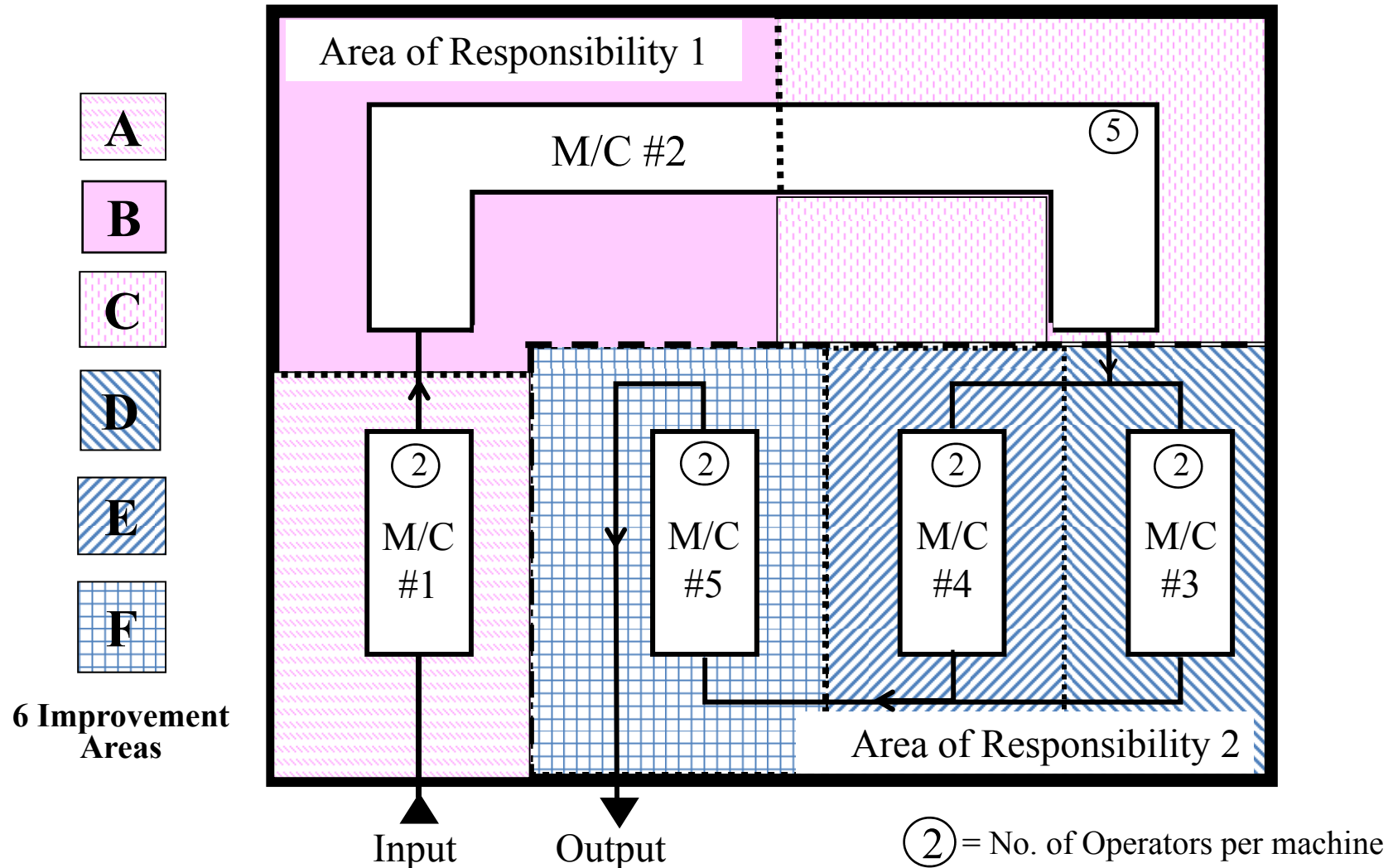
3 Shift Operation hence 3 Improvement Areas per Area of Responsibility



3. Developing People & Teams

Example Defined Production Area

39 Operators over 3 Shifts, hence 6 Improvement Areas



3. Developing People & Teams

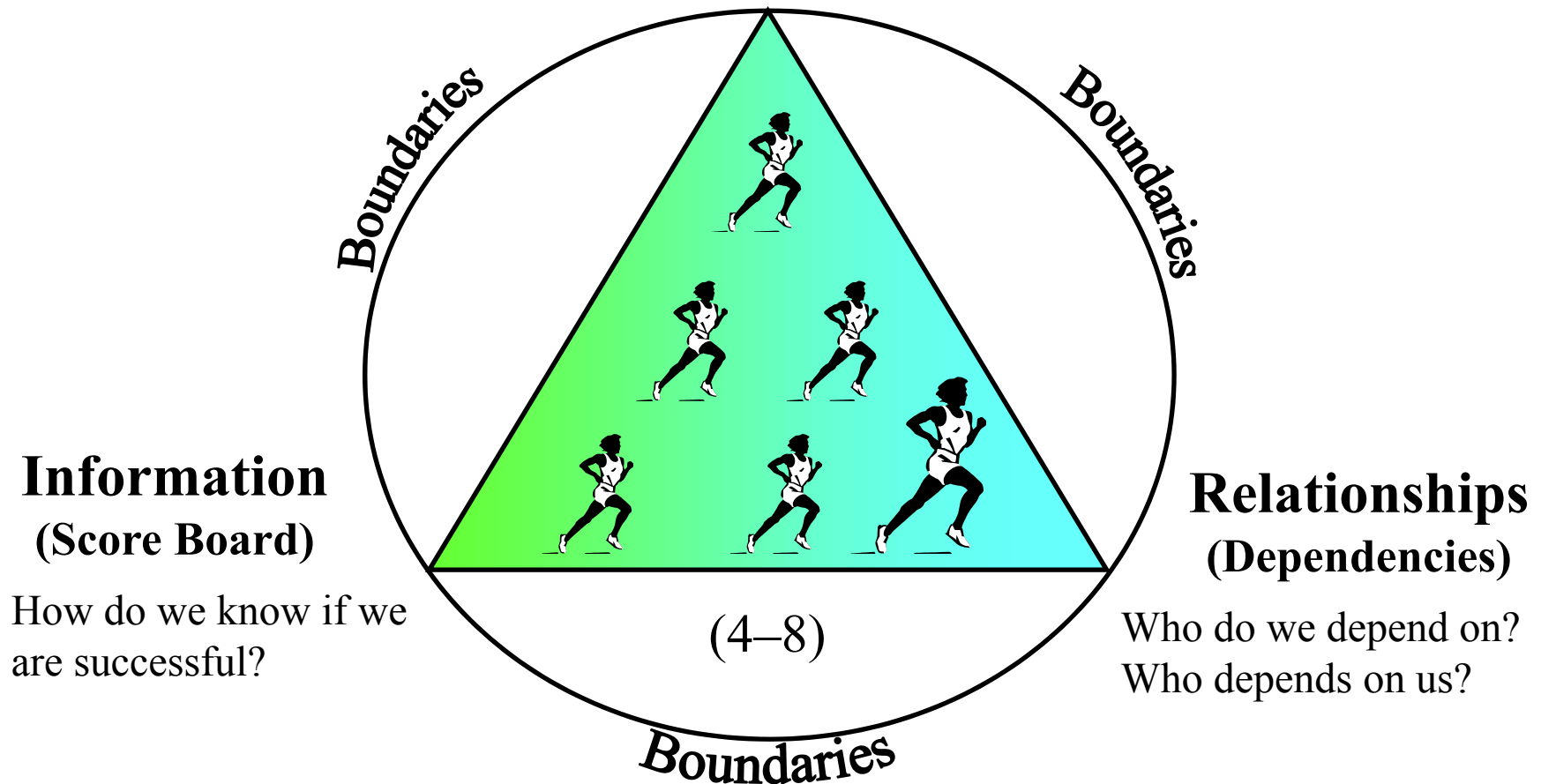
Framework for Synergistic Area Based Teams

Purpose

(Goal Posts / Mandate)

Why do we exist?

What are we trying to achieve?



Adapted from Dalmau & Associates

3. Developing People & Teams

The Purpose of Boundary Management

The purpose of Boundary Management is to allow teams to grow and learn while protecting both the team and the company.

Apart from the initial **Physical; Technological; Resources;** and **Financial** boundaries, management (Leadership Team) also needs to develop boundaries for:

Responsibilities

Goal Aligned Performance Measures

Decisions

The Givens, Management will Consult, Team can Negotiate,
Team Self Manages

Timeframes

Daily, Weekly, Monthly, Quarterly



3. Developing People & Teams

5s Team Information Sheet

Cycle:	Defined Production Area:		Improvement Area:		
Starting DPA OEE:		Target DPA OEE for this Cycle:			
Mandate:	<ul style="list-style-type: none"> • Clear-up and clean-up your Improvement Area and create 'a place for everything and have everything in its place' by working through the 10 parts of Work Area Management (WAM); • Create or enhance standards and checklists for your work area and work processes to ensure that WAM improvements are sustained; • Ensure appropriate Visual Controls are created or enhanced to communicate work area standards and to make any deviation from standard easy for all to see; • Achieve a WAM Self-Assessment Rating of at least 80%; • Positively contribute to improve the OEE and the Goal Aligned Performance Measures for your Defined Production Area; and • Complete within 12 weeks. 				
Boundaries:	Physical:	Within the team's Improvement Area		Meetings: If there is a need due to safety or customer issue to defer the meeting (OEE below agreed target), then the meeting should be rescheduled to the earliest possible time within the week	
	Technological:	No change to existing technology unless approved			
	Team Resources:	Time for meetings per week: approx 0.5 hrs Time for improvement activities per week: approx 1.5 hrs Total Time for formal activities (excludes discretionary time): 2.0 hrs		Changes: Before changes can be implemented, they must be agreed to by all other teams across all shifts in your Defined Production Area by having each Team Leader sign off on your TPM ³ Improvement Sheet	
	Support Resources:	Allocated Mechanical Maintenance support: as required up to 2.0 hrs per week Allocated Electrical Maintenance support: as required up to 1.0 hr per week			
	Financial:	A budget of \$1,000 per team subject to application from the team and approval from L/T at the mid-way presentation. Further money may be available if justified and then approved by the Leadership Team (your TPM ³ Co-ordinator can help you with this)			
Team Members:		Team Leader		Designated Support	
		Operator		Maintenance - Mechanical	
		Operator		Maintenance - Electrical	
		Operator		Quality	
		Operator		Safety	
Kick-off Date:	Operator		LT Member (Mentor)		
Kick-off Time:	Operator		TPM³ Co-ordinator		
Meeting Day & Time:	Operator		CTPM Navigator		
Activity Day & Time:	Operator				
Mid-way Presentation Date:			Final Presentation Date:		

To be handed to Team in Step 1 / Part 1 of kick-off workshop;

To be completed at end of cycle for archives

3. Developing People & Teams

Ensure a Focus Point is allocated to each Team Member

Sample Focus Points for a Production team of 5 Operators

1. General Amenities

Safety equipment, cleaning equipment etc

2. Information

Noticeboards, Scoreboards, Work Instructions etc

3. Inventory

Raw materials, Stores etc

4. Maintenance Tools, Parts and Equipment

Hand tools, lifting tackle, spare parts etc

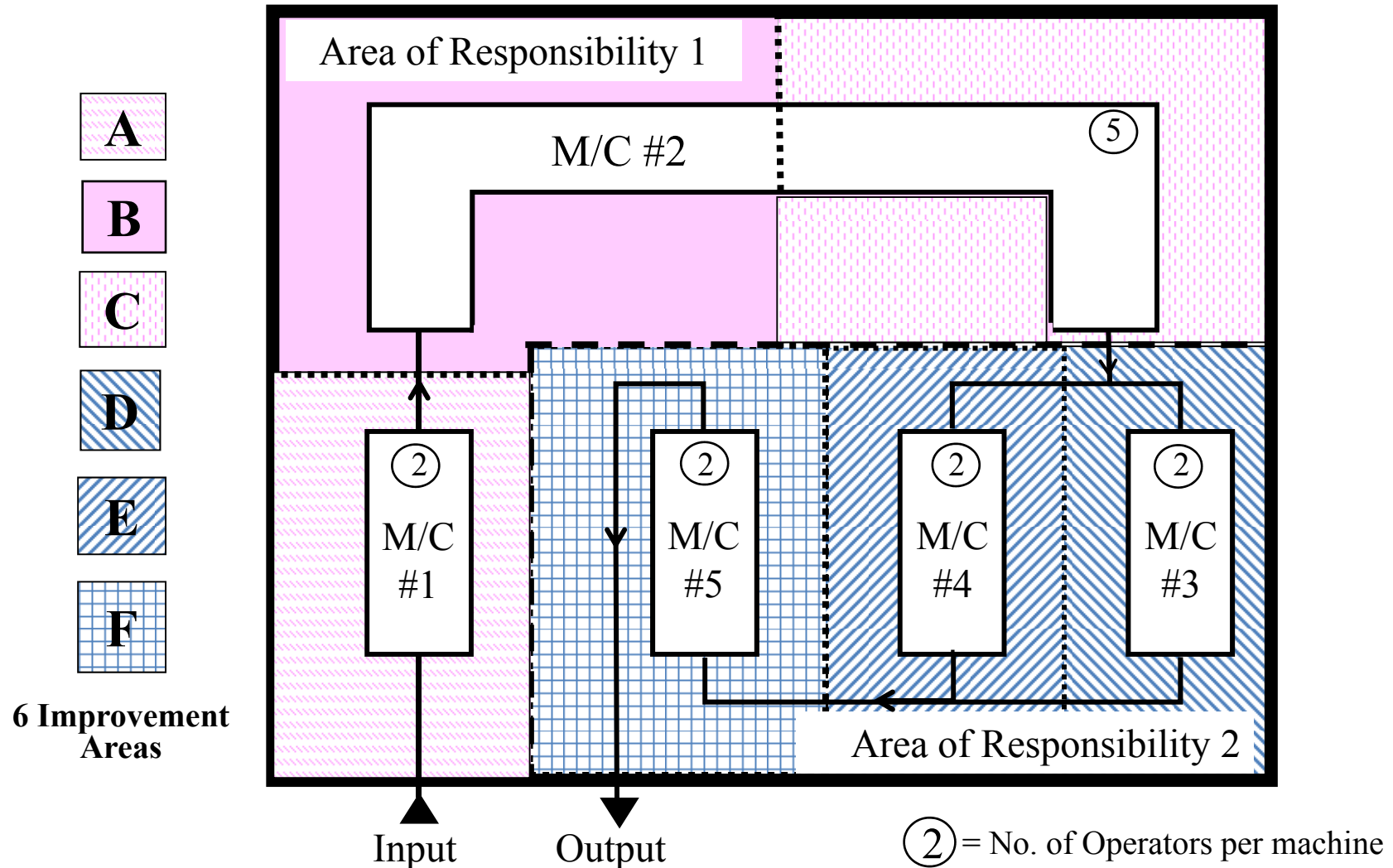
5. Production Tools

Adjusting tools etc

3. Developing People & Teams

Example Defined Production Area

39 Operators over 3 Shifts, hence 6 Improvement Areas



4. Using 5s to improve communications between shifts

The Agreement Rule

Before any 5s improvement activity can be carried out in your Improvement Area, agreement must be gained from all shifts and personnel (maintenance, technical, process etc) who work in the area.

Tools to Assist in Gaining Agreement

Improvement Sheets

Sketches of new items

Temporary markings on floor

Presentations to, or discussions with, other teams

Entries in Log Books or Shift handovers

Use of Noticeboards

Improvement Sheet

Capturing and communicating Improvements / Immediate Action items

Team Name:	Night Owls	Location:	Refiner	Initiated Date:	13 / 11 / 00
Initiator:	J Smith	Item:	Work Bench	Completed Date:	
Team Leader:	G Bailey				

1. Problem (Plan)

Cluttered and Messy Work Bench

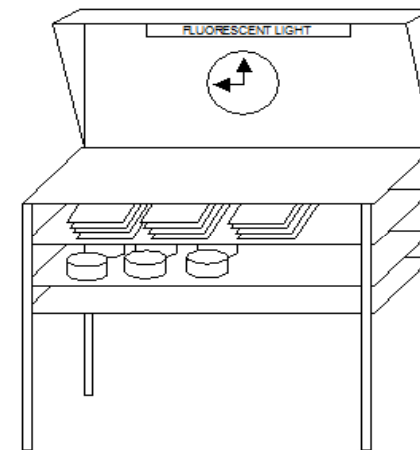
2. Current Situation (Plan)

Photo:



3. Proposed Change / Approved Improvement (Do)

Sketch / Photo:



Improvement Target: Area to be cleaned up and a work bench restored.
Everything required having a place

Expected Cost:	\$200	Expected Completion Date:	05/12/00	Expected Saving:	\$2,500 per year
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4. Results: (Check)

Actual Cost:

Actual Savings:

5. Future Actions: (Act)

CTPM	Approved by:	TL - Shift A	TL - Shift B	TL - Shift C	TL - Shift D	LT Member
	Discuss with team then sign off acceptance of Proposed Change					

☒ Risk Assessment Completed

☐ Proposed Change Approved

☐ Improvement Being Worked On

Improvement Sheet

Capturing and communicating Improvements / Immediate Action items

Team Name:	Night Owls	Location:	Refiner	Initiated Date:	13 / 11 / 00
Initiator:	J Smith	Item:	Work Bench	Completed Date:	23 / 11 / 00
Team Leader:	G Bailey				

1. Problem (Plan)

Cluttered and Messy Work Bench

2. Current Situation (Plan) 3. Proposed Change / Approved Improvement (Do)

Photo:



Sketch / Photo:



Improvement Target: Area to be cleaned up and a work bench restored. Everything required having a place

Expected Cost: \$200 **Expected Completion Date:** 05/12/00 **Expected Saving:** \$2,500 per year

4. Results: (Check) 5. Future Actions: (Act)

Tidier and user friendly Work Area.
Improved productivity. Impact on
Safety and Morale.

Actual Cost: \$230

Actual Savings: TBA

Display sheet on Noticeboard so as to share our learning.

Approved by:		TL - Shift A	TL - Shift B	TL - Shift C	TL - Shift D	LT Member
Discuss with team then sign off acceptance of Proposed Change		BA	DE	FZ	JS	PG

CTPM Australasia

☒ Risk Assessment Completed

☒ Proposed Change Approved

☒ Improvement Being Worked On

Summary

1. Purpose of 5s

Not only makes the workplace clean and organised, but must aim to:

- ✓ Eliminate all types of waste (TIMWOOD)
- ✓ Develop people and teams
- ✓ Expose abnormalities (problems) at the earliest possible time that effect quality or equipment failures

2. Engaging people

- ✓ Address the What's In It For Me (WIIFM) through emotive questioning
- ✓ Create a pull culture change with pilot areas rather than push 5s onto people

3. Develop People & Teams

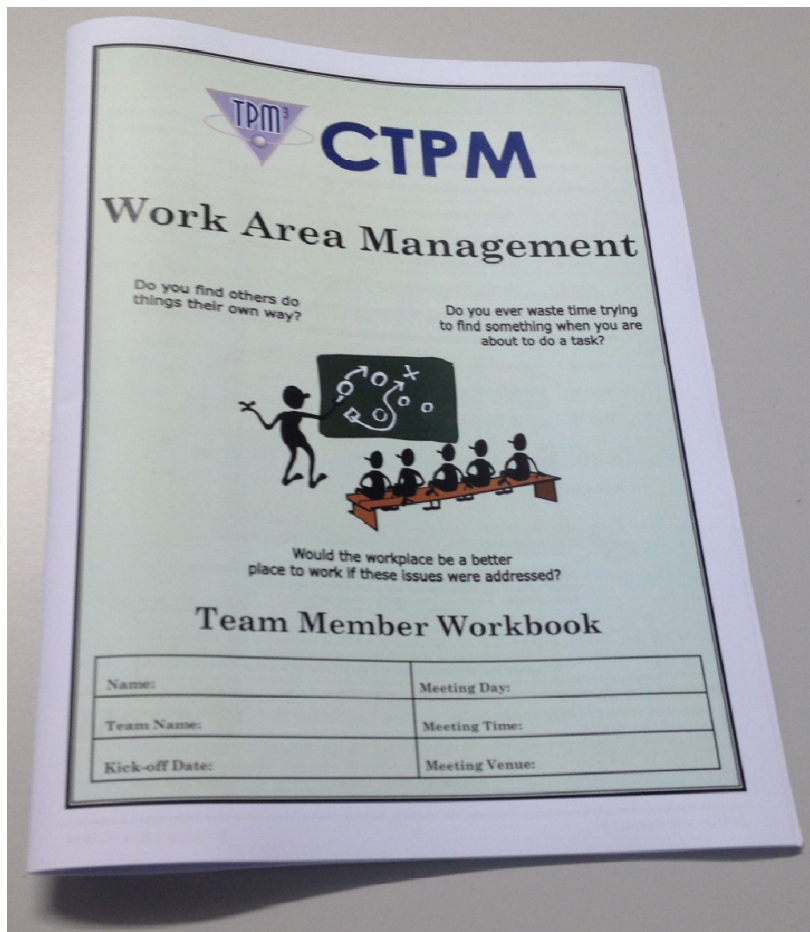
- ✓ Involve everyone in the work area, during normal time where possible
- ✓ Use Boundary Management to protect the team & keep them focused
- ✓ Use Focus points to even the workload and engage all team members

4. Improve Communication

- ✓ Use “The Agreement Rule” to improve communication, along with tools such as the Improvement Sheet

How can we help ?

CTPM have WAM Workbooks and Team Leader Guides available to purchase from our Head Office.



Comparing 5S and Work Area Management Which will suit your site best?

5S was developed in Japan to establish the discipline within their workforce to be able to follow standards and identify problems at the earliest possible time to allow the successful implementation of the Toyota Production System.

Work Area Management was developed in Australasia to establish the discipline initially within the production and maintenance workforce to be able to follow standards and identify problems at the earliest possible time to allow the successful implementation of Total Productive Maintenance (TPM) recognising that the Australasian workplace culture is quite different to that found in Japan where 5S and TPM were developed.

Total Productive Maintenance (TPM) was developed in Japan, and like 5S, is recognised as a key concept in Lean Production and World Class Manufacturing models, however few organisations understand how these two concepts should come together to generate far greater benefits than either one can by themselves. The unfortunate thing is, many companies treat the two as separate activities rather than integrating them so as to significantly improve Safety & Environment, Quality, Delivery, Plant & Equipment performance, Productivity, Morale and most importantly Financial performance by creating a workplace environment that is the envy of their industry.

Overview of 5S

As the name suggests there are five steps to the 5S methodology. They correspond to five words in Japanese all beginning with the letter "S". The words focus on effective workplace organisation and standardised work practices.

5S 'a systematic method of industrial housekeeping and organisation for the workplace'				
	Japanese Words *	Meaning	Activity	Alternate English Words
S1	Seiri	Organisation	Clearing Up	Sort
S2	Seiton	Orderliness	Organising	Set in Order / Straighten
S3	Seiso	Cleanliness	Cleaning	Shine
S4	Seiketsu	Standardising	Standardising	Standardise
S5	Shitsuke	Self Discipline	Training & Discipline	Sustain

* Each word refers to a specific principle or set of established rules of organisation and housekeeping

Unfortunately, many people get so focused on the activity (getting things done) and outcomes (making the workplace look good), they forget the real reason 5S was developed by the Japanese. That reason, was to develop the discipline within their people to be able to follow standards and identify problems at the earliest possible time to allow the successful implementation of the Toyota Production System.

Overview of TPM

TPM has developed significantly over the years since being identified by the Japan Institute of Plant Maintenance (JIPM) in 1970 while conducting a PM audit at Nippondenso. Originally there were 5 Pillars or Activities of TPM that are now referred to as first generation TPM (Total Productive Maintenance). It focused on improving equipment performance or effectiveness from an equipment focus perspective.

Also, E-Tech on comparing 5S & WAM available to download from our webpage for Members Only.

Any Questions Please?



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**Thank
You!!!**