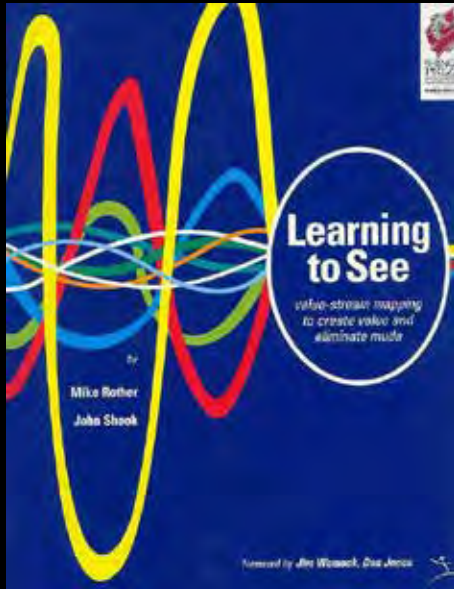




# Learning to See Learning to Coach

**Learning Session**

**Darren Walsh**  
**UK Lean Summit 2016**



*Whenever there is a product for a customer,  
there is a value stream.  
The challenge lies in seeing it.*

# Learning Objectives

The aim of this breakout session is to help develop a greater understanding of:

- The 4-step process of Value Stream Mapping
- Developing future state maps & 'What Makes a Value Stream Lean'
- The common challenges of Value Stream Mapping and Value Stream Transformation
- Learn tips to help navigate the common pitfalls and develop your coaching capability.
- Learn about routines and feedback loops that help deepen our knowledge & capability of Lean and VSM.

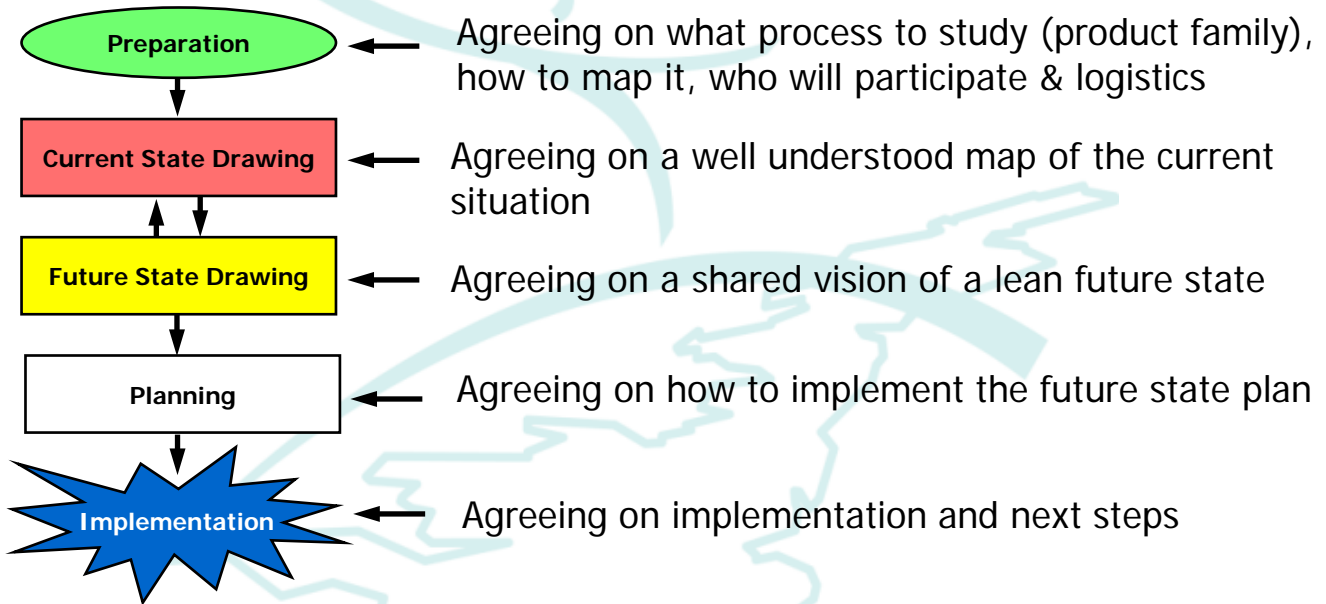


# The 4-Step Value Stream Mapping Process

# Value Stream Mapping Purpose

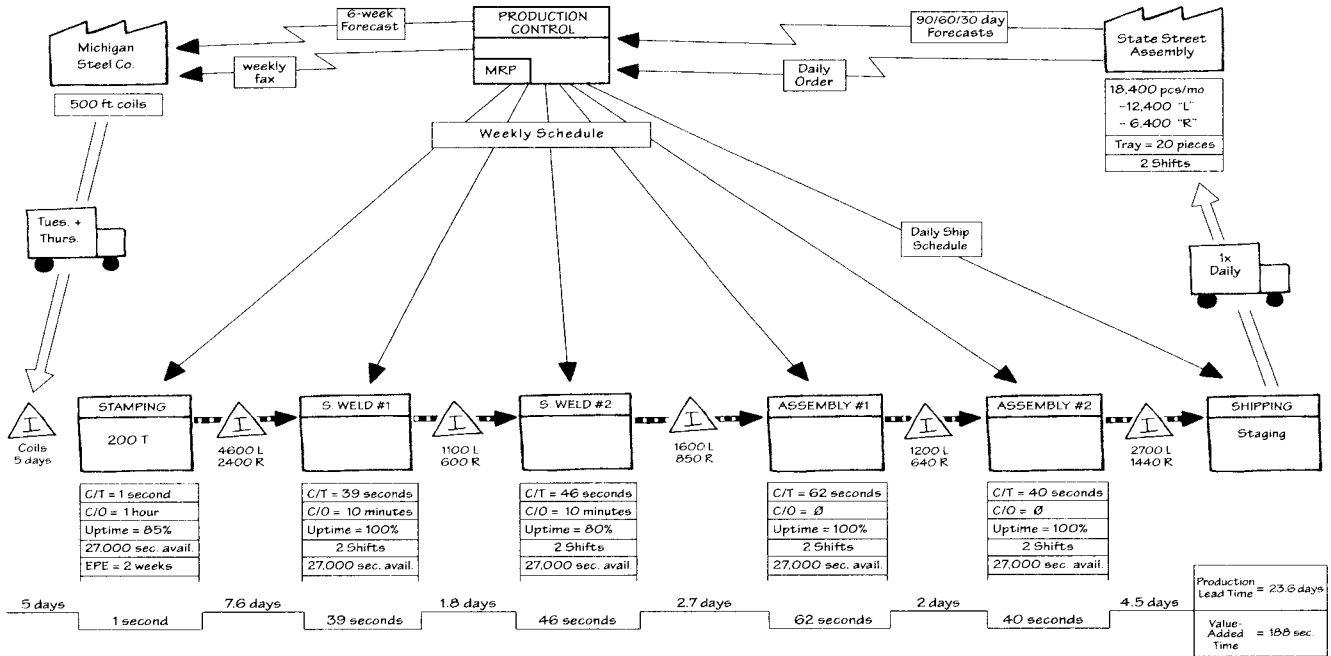
- Provides a system-level view.
- Enables everyone to see the waste simply and easily.
- Snapshot from the customer's perspective.
- Identifies the current operating philosophy.
- Provides a roadmap for change that yields bottom line results.

# Using the Value Stream Mapping Tool



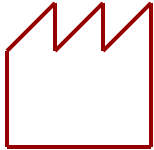
# Value Stream Map

## Current-State Value Stream Map



Source: Rother and Shook 1999, pp.32-33.

# Typical VSM Symbols



Customer/Supplier



E-mail



Process Box



Push Arrow



Data Box



Manual Info. (Paper)



Electronic Info. Flow  
(Paperless)



Inventory



"Go See" Scheduling



Delay/Wait



Supermarket/ Pull



Lead-Time  
Ladder



Problem/  
Improvement burst





# Common Challenges of Value Stream Mapping / Transformation

## Potential Countermeasures

# Common Pitfalls of VSM

- Creation of the future state/ ideal state
- Overshooting time, resources, budget
- Not having a clear definition of the scope at preparation & implementation
- Scope creep
- Developing accurate and realistic future states
- Creating links between future state and improvement projects
- Quantifying improvement projects
- Only developing current states
- Resistance and reaction to report outs
- Not knowing when to decouple processes
- Keeping the team on the same level whilst mapping the value stream
- Keeping team focussed on what needs to be achieved
- Lack of available data
- Jumping to solution and treating improvement actions as solutions
- Running out of steam and not completing improvement actions

# Common Pitfalls & Countermeasures



## VSM Pitfalls

### Preparation Problems

- Not selecting the right value stream to map
- Not identifying and completing pre work
- Scoping Issues/ scope creep
- Leadership (AVL)

### Mapping Problems

- Mapping Technical Issues (e.g, no lead time ladder)
- Strategy for developing the Future State VSM
- Resistance and reaction to report outs

### Implementation Problems

- Running out of steam
- Not meeting objectives (Time, Budget & Result)
- Competing/ new projects

### Potential Direct Causes

- Making assumptions, not knowing how to prioritise value streams.
- Gaps in knowledge & capability (not gathering relevant data).
- Lack of leadership throughout the value stream transformation
- Gaps in facilitators VSM knowledge & capability
- Defensive culture & mindsets
- Leadership behaviour
- Not managing change effectively
- Possible gaps in management routines & improvement capability
- Possible gaps in strategy

# Deciding What to Map

## Preparation Problems

Prior to mapping, we need to:

- Understand our product families
- Select the right Value Streams to Map

Cumulative % of Sales	Cumulative % Product Range
50%	6%
95%	
BLUES	
Last 1%	

### Glenday Sieve

		Process Steps & Equipment						
		Spot Weld	Robot	Paint	Manua	Press	Electron	is Test
Products	LH Steering Bracket	X		X	X	X		
	RH Steering Bracket	X		X	X	X		
	Instrument Panel Brace			X			X	X
	Ball Bumper Brackets	X					X	X

### Product Family Analysis

Prior to mapping, we need to:

- Ensure the right people are involved
- Scope is clear
- Pre-work is identified and completed
- Management routines are in place to support & sustain the implementation

Kaizen/ Improvement Event Charter					
Kick-Off Date:	4-Feb-13	Report Out Date:	11-Feb-13	Primary ZALS Tool:	Standard Work
Event End Date:	9 Feb 2013	Report Out Time:	1pm	Record ID #	MP/42
Stakeholder/ Exec	Henry Larkin	Process/ KPI Mgr:	Lee Davies	Workshop Team Leader:	Christina Olo
Process/ Area	Ops / Seating	Lead Facilitator:	D. Walsh	Facilitator:	
WHY IS THIS KAIZEN NECESSARY (Define the problem):					
XXXXX Airlines Mainline not consistently achieving TAKT					
Key Performance Indicator (KPI) or Policy Deployment Objective Impacted:					
OTIF & Quality (DPU)					
Gemba Boundaries (Event Scope)					
In-Scope (Areas Included)	AA Mainline	Out-of-Scope (Areas Excluded)	Engineering Change, Permits, Concessions		
	AA Sub- Assembly		Site Recovery Plans		
	AA Core Team Daily Routines		Cambridge, Other Production Lines (although as the improvement programme progresses you maybe called on to support other production lines by developing/ supporting core teams in their daily routines		
EVENT GOALS/ TARGETS (Indicate "FROM" JOP and "TO" Goal)					
1	OTIF				
2	TAKT				
3	Quality				
Kaizen Event Agenda to achieve GOALS:					
1	Establish a current state (Layout & Balance)				
2	Identify Problems				
3	Define Future State (Layout, Balance)				
4	Implement/ Test countermeasures				
5	Establish a method of highlighting and resolving problems affecting tak				
6	Review & Develop Routines of core support team				
7					
TEAM MEMBERS : 100% Attendance is required (From Kick Off to Report Out)					
Name	Position	Name	Position	Name	Position
1	Manuel	7	Steve Jones	CUM	
2	Waco	8	Tracy Lloyd	Team Leader	
3	Aneedy	9	Steve Payton	Production Engineer	
4		10	Judith Hasdy	Production Control	
5		11	Chris Goody	Quality	
6		12			
Additional support needed ad hoc and Reviewers of Kaizen Ideas/ Working Documents before Report Out					
Name	Position	Name	Position	Name	Position
1		2		3	

**Mapping Problems**

**Developing a Future State**

**&**

**What Makes A Value Stream Lean**

# Current State VS/ Map Exercise

## Exercise Objective

Identify What Improvement Actions You Would Take?

### Instructions

- Break into teams of approximately 8.
- Appoint one person to act as facilitator.
- Appoint one person to provide background information.
- Walk through how the current state process currently works.
- Share the background information
- Identify potential problems & improvement actions

### Time to Complete

20 minutes

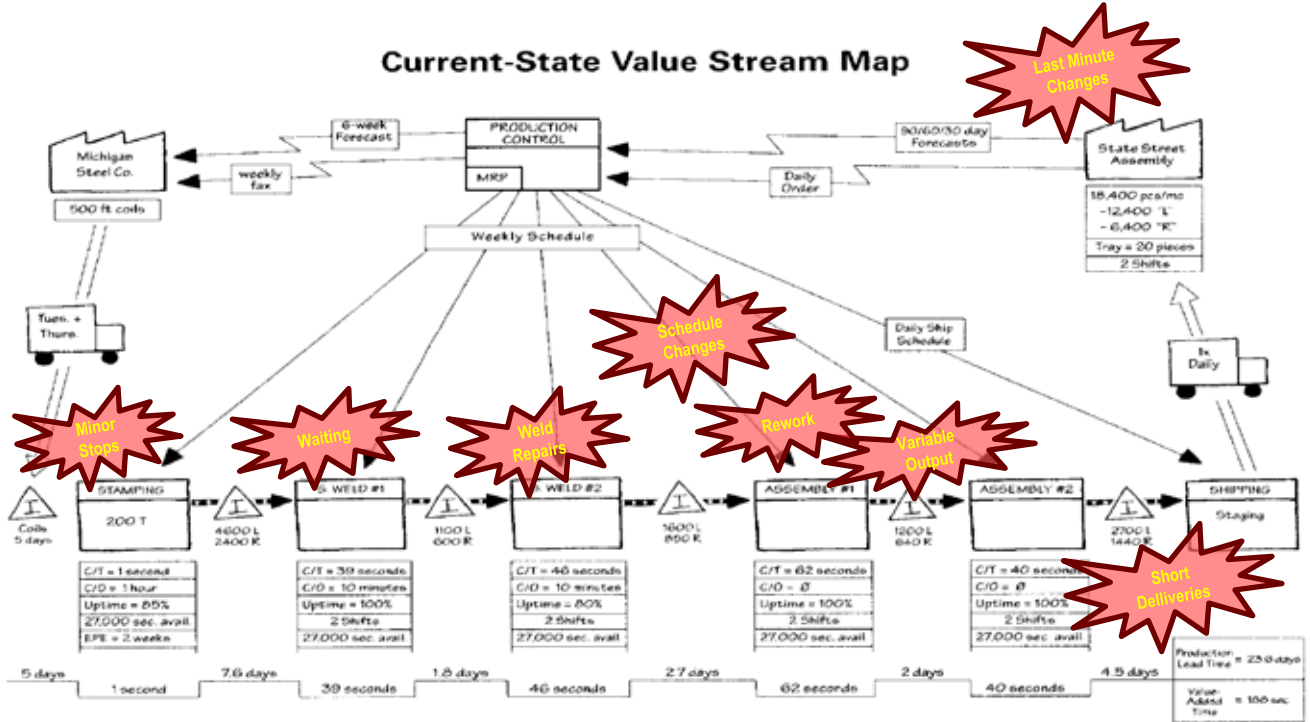
### Deliverable

Identify:

- Potential Problems
- What Improvement Action Should Be Taken.

# Value Stream Map


## Current-State Value Stream Map



Source: Rother and Shook 1999, pp.32-33.

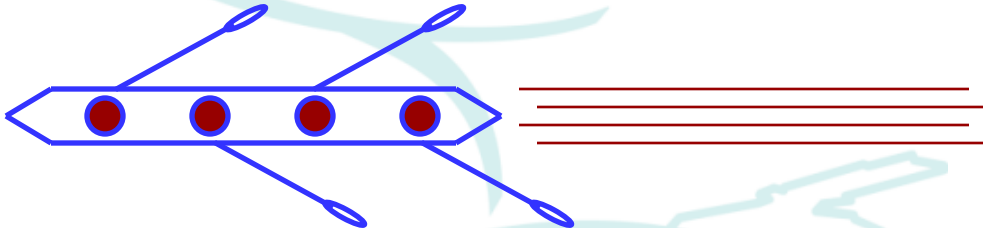
# Future State

## What Makes a Value Stream Lean

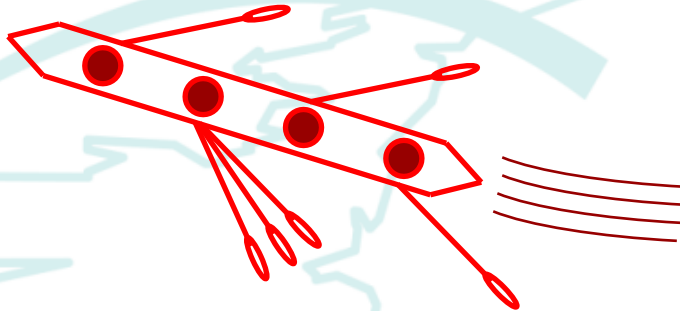
- **Takt Time**
  - **Finished Goods Strategy**
  - **Continuous One-Piece Flow**
  - **FIFO**
  - **Pull Systems**
  - **Single Scheduling Point**
  - **Interval**
  - **Pitch**
- 



# How fast should we produce?



Point  
Efficiency  
vs.  
System  
Efficiency

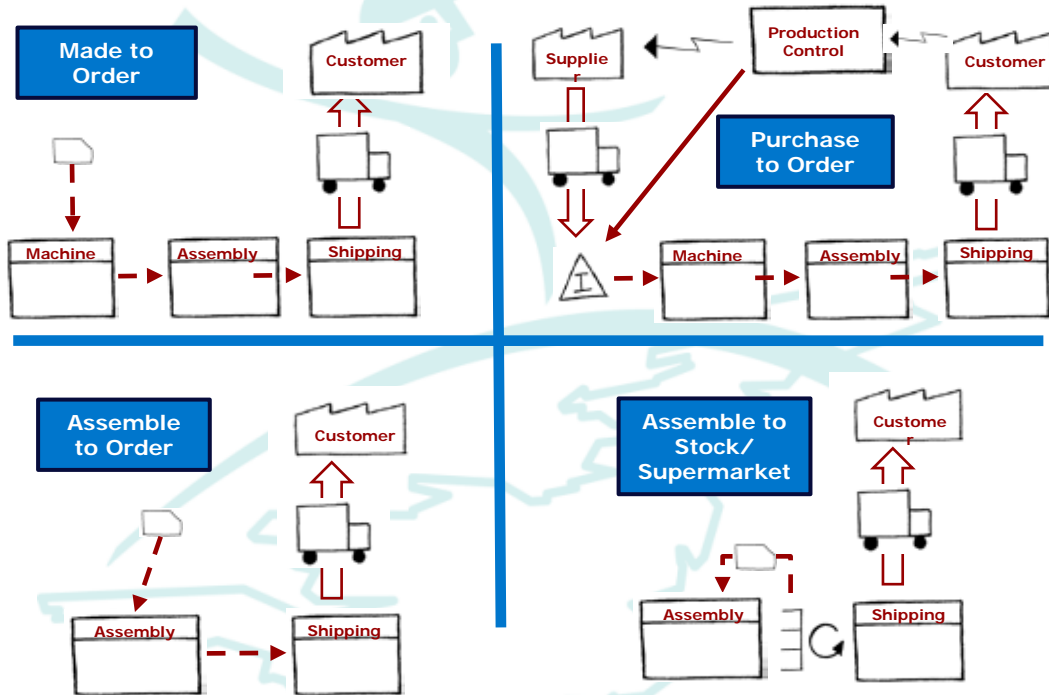


# Takt Time

- Utilises the customer demand rate
- Synchronises the rate of production to demand

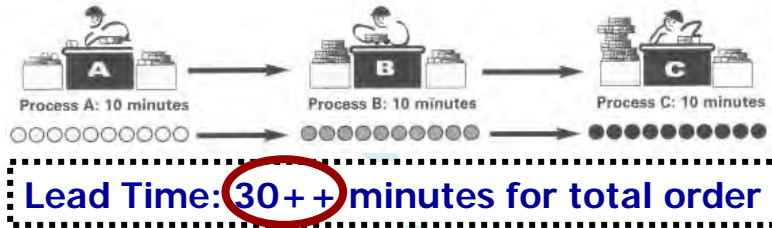
$$\begin{aligned} \text{Takt Time} &= \frac{\text{Available Time}}{\text{Demand}} \\ &= \frac{840 \text{ Minutes / day}}{42 \text{ Units / day}} = 20 \text{ Minutes / Unit} \end{aligned}$$

# Finished Goods Strategy

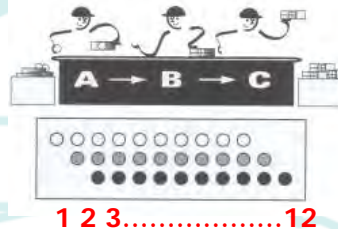


# Continuous Flow Processing

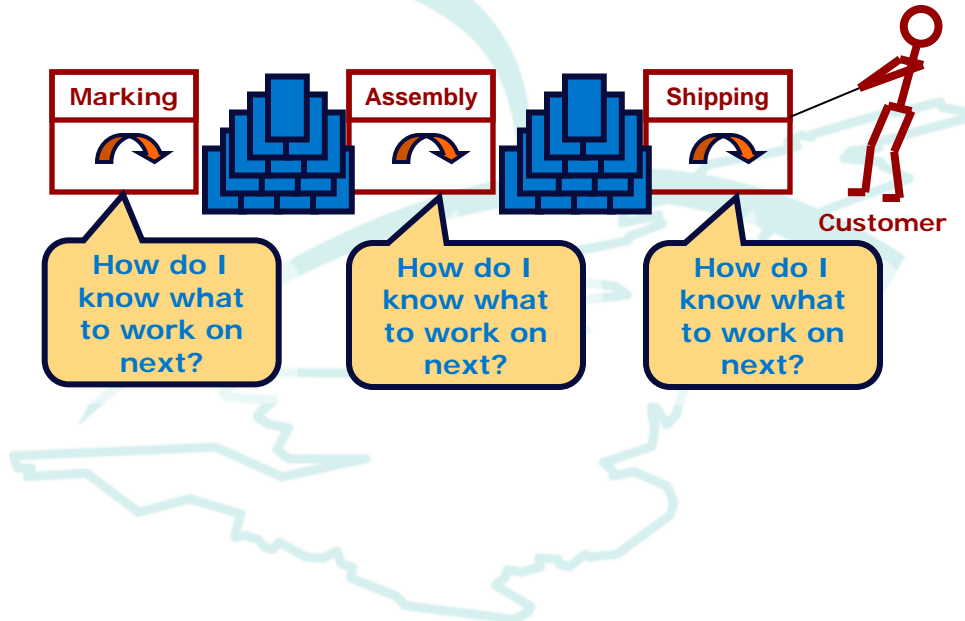
## *Batch & Push Processing*



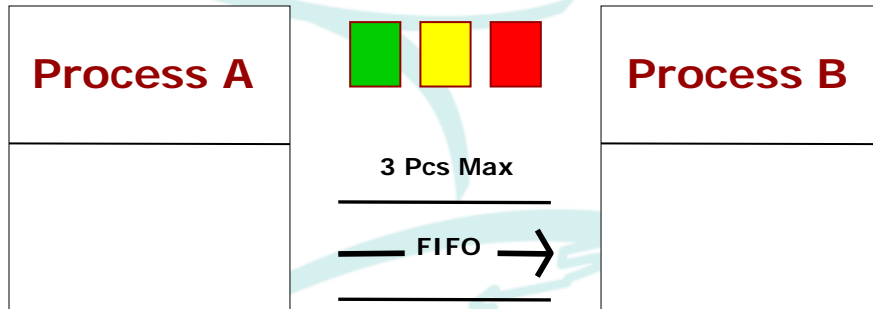
**Continuous Flow “make one, move one”**



# How do we join divided processes?



# FIFO- First In First Out

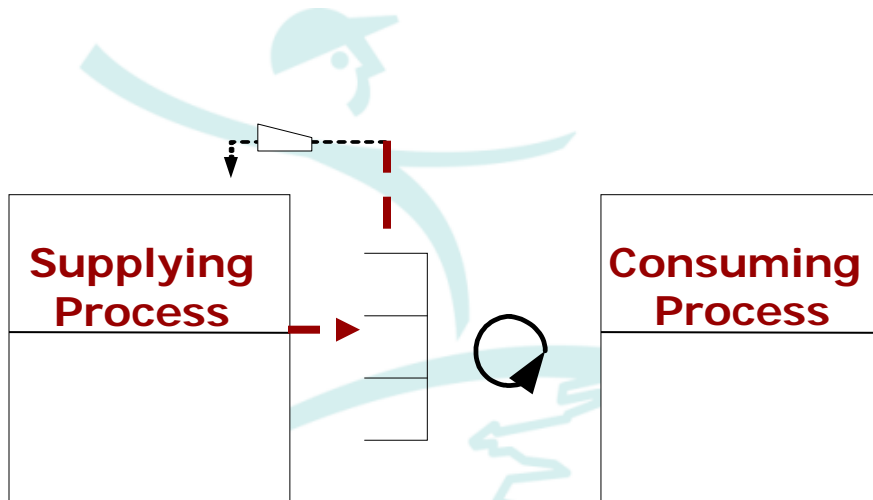


## **FIFO:**

**Sets the sequence of production**

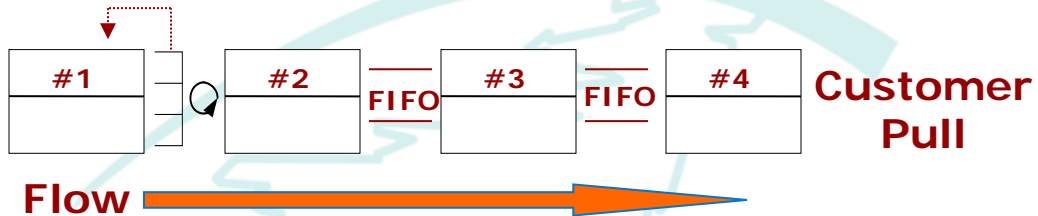
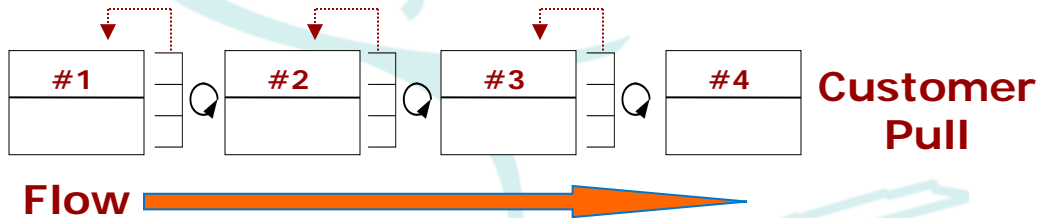
**Implies control over in process inventory**

# Supermarket- Pull System



**Supermarket Pull controls production between operations without scheduling**

# Schedule Only One Point





# Establishing an interval

Product	Description	Weekly Demand
A	Filter Regulator	1000
B	Regulator	600
C	Lubricator	300
D	Filter	100

Production capability - 400 per day

# Establishing an interval

Product	Description	Mon	Tues	Wed	Thurs	Fri
A	Filter Regulator	400	400	200		
B	Regulator			200	400	
C	Lubricator					300
D	Filter					100
	Total:	400	400	400	400	400

Interval = ?

# Establishing an interval

Product	Description	Mon	Tues	Wed	Thurs	Fri
A	Filter Regulator	200	200	200	200	200
B	Regulator	120	120	120	120	120
C	Lubricator	60	60	60	60	60
D	Filter	20	20	20	20	20
	Total:	400	400	400	400	400

Interval = ?

# Pitch

- The amount of work we schedule and take away from the pacemaker
- This amount defines the management “audit” cycle – to identify and react to problems
- Pitch defines the frequency with which we determine if we are “ahead or behind” and meeting customer demand.

1 Week

1 Day

1 Shift

1 Hour

1 Pitch

1 Takt

Learning to See, Rother and Shook, Lean Enterprise Institute, 1998

# Levelling the Pacemaker

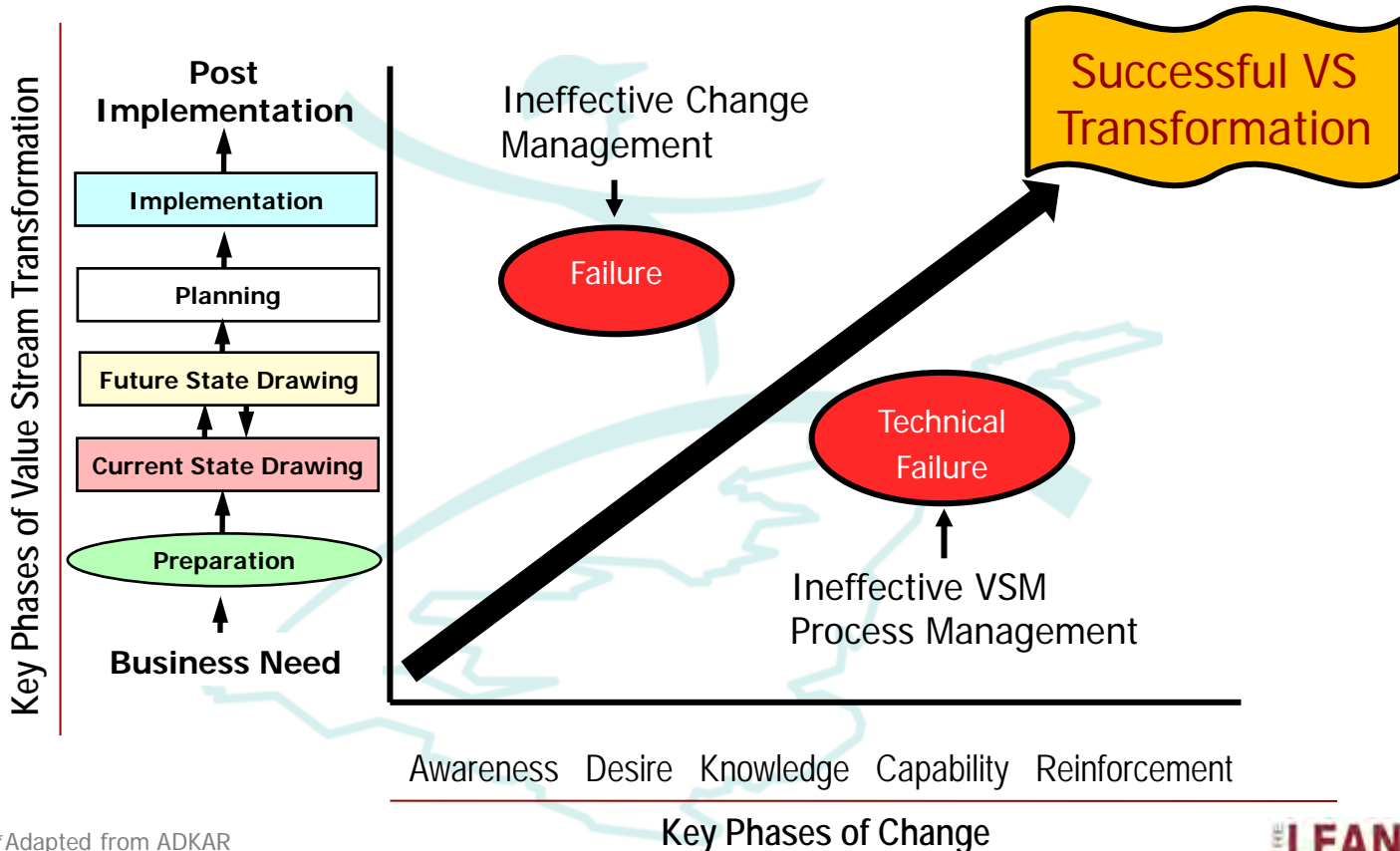
1 <sup>st</sup> Shift	7:00 a.m.	7:30 a.m.	8:00 a.m.	8:30 a.m.	9:00 a.m.
2 <sup>nd</sup> Shift	3:00 p.m.	3:30 p.m.	4:00 p.m.	4:30 p.m.	5:00 p.m.
A					
B					
C					
D					

# What Makes A Value Stream Lean!

- What is our **Takt Time**?
- What is our **Finished Goods Strategy** for this Value Stream?
- Where can we implement **Continuous Flow**?
- Where can we implement **FIFO**?
- Where do we have to use supermarket **Pull Systems**?
- At what **Single Point in the process will we Schedule** the work (pacemaker) ?
- What **Interval** can we support at the pacemaker?
- What increment of work will we consistently measure to help identify variation (**Pitch**)?



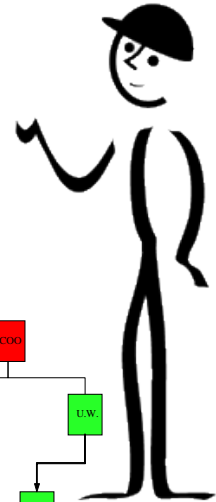
# Phases of VSM and Change



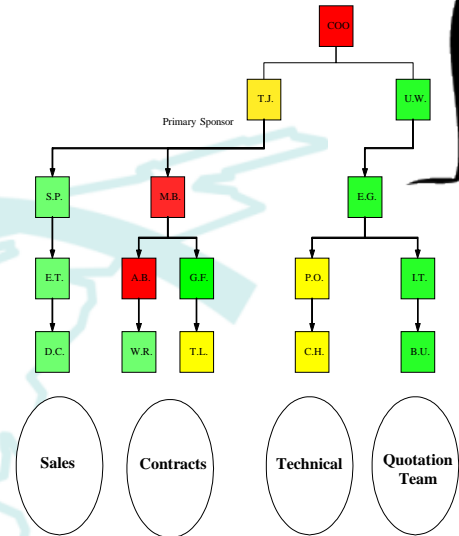
\*Adapted from ADKAR

# Transformation Problems

## Transformation Roles not Defined



- Leaders participate actively and visibly throughout the transformation
- Ensure that sponsorship at each level is helping to deliver a successful transformation
- Communicate the need regularly and directly with employees
- Identify potential gaps that may delay/derail the transformation



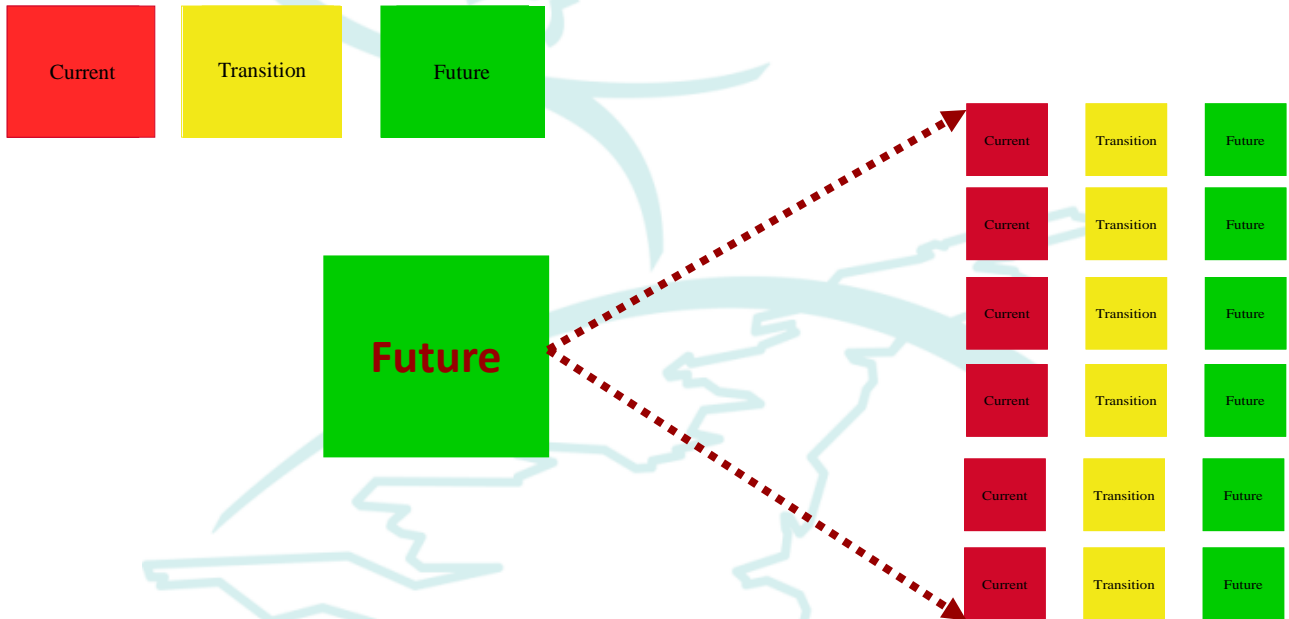




# Techniques to Deepen Knowledge And Capability

# Feedback Loops & PDCA Linkages

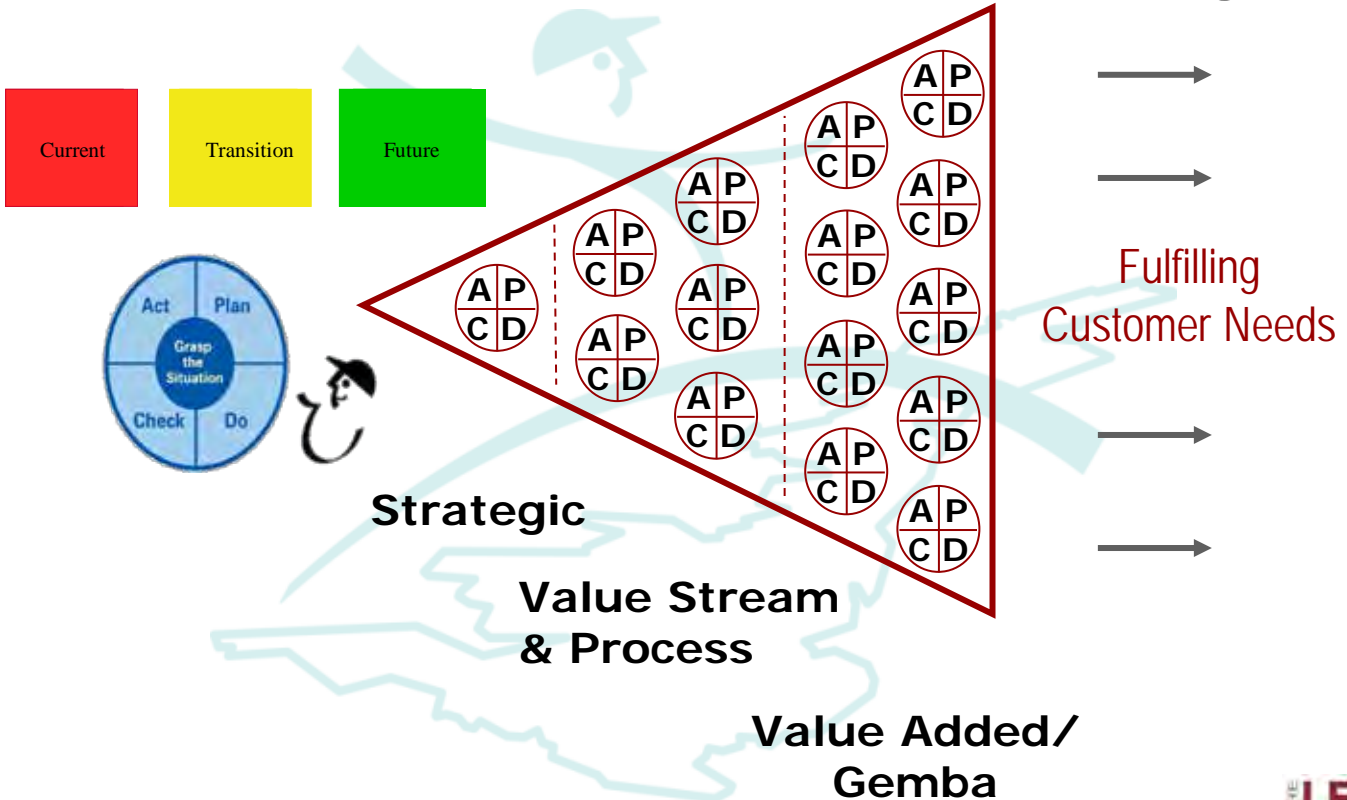
## Organisation / Value Stream



\*Based on Kurt Lewin's Three-Step Change Model

# PDCA Cycle of Learning

## Feedback Loops & PDCA Linkages



# Acme Stamping Steering Bracket Value Stream Improvement

## Problem Statement/ Background

- Are you planning to improve the value stream
- Will you have the support of visible leadership through the project?

- If the team struggles to create a current state map then the work was not completed

- Evidence of waste, capability gap on time ladder – capability gap

- Leadership & management attendance to get a real grasp of the situation – Desire / Leadership management routines

- Not mapped the control plan

## Root Cause Analysis / Future State Plan

- Evidence of the 8 Lean guidelines on time ladder – capability gap

- Employees are defensive about present plans - it may be hidden defensive cultural / mindset

## Planned Countermeasures

If the countermeasures are taking too long, consider:

- The team is struggling and needs help (possible capability gaps)
- They maybe the wrong countermeasures (check 8 Lean guidelines)
- You may have solutions and not countermeasures
- Resources have been redirected
- Not getting full 100% attendance / support and follow through on actions – Desire or Management Routine issues
- Management routines and leadership behaviours are not communicating the need, creating desire or helping to address issues.

## Confirmation of Effect / Target Condition

If the countermeasure are not driving an improvement in business performance, then either the Countermeasures are not being tested effectively or they are the wrong countermeasures (e.g: actions based on waste and not flow)

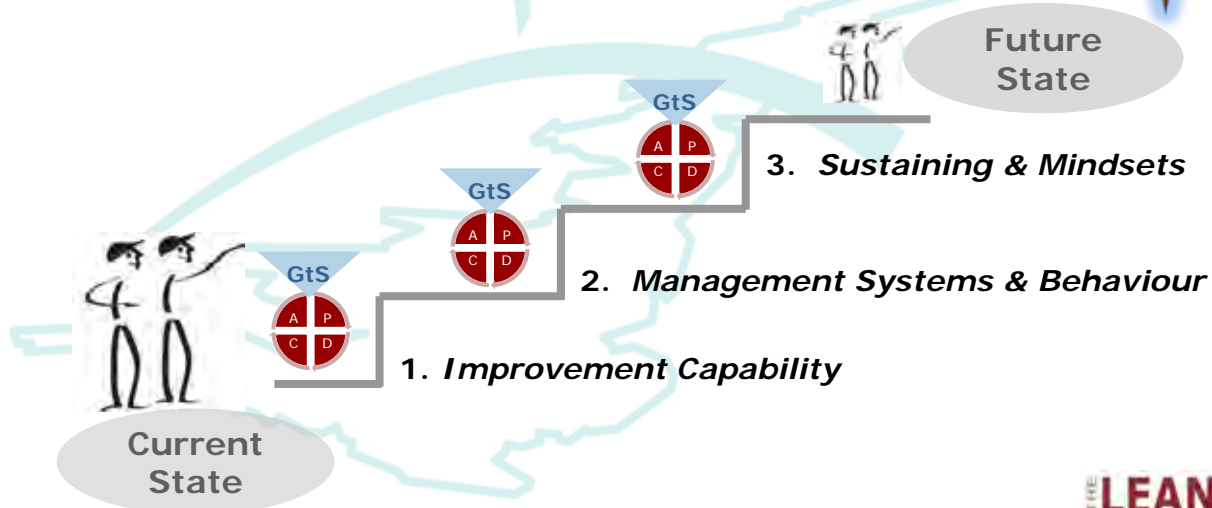
If the process or performance is not being sustained, consider:

- Either the actions to standardised are not working effectively or the daily management is not maintaining standards.
- Or additional problems or changes have developed.

Other functions: Production Control, Material Handling, Purchasing, Maintenance, Human Resources, Finance.

# Summary & Questions

- VSM is a Management Problem Solving Tool
- Helps us “Grasp the Situation” and develop a greater understanding of issues impacting the work, transformation and performance.
- You can't skip steps in the learning process
- Establish an effective transformation plan that considers leadership
- Consider the 5 dimension of LTF as you embed the change



# Thank You

*The primary role of managers must shift from firefighting to defining, aligning and improving systems.*

*- Shigeo Shingo*

