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# Getting an Understanding of the Critical Elements in Your Lean Journey

“Understanding the thinking”



ACCIDENT / INCIDENT MANAGEMENT

NON CONFORMANCES

AUDITS

RISK MANAGEMENT

ENVIRONMENTAL INCIDENTS

PRE-QUALIFICATIONS

PLANT & EQUIPMENT MGT

E-LEARNING



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ISO MANAGEMENT  
SYSTEMS

ISO9001 | ISO14001 | ISO 27000 | ISO13485

LEAN

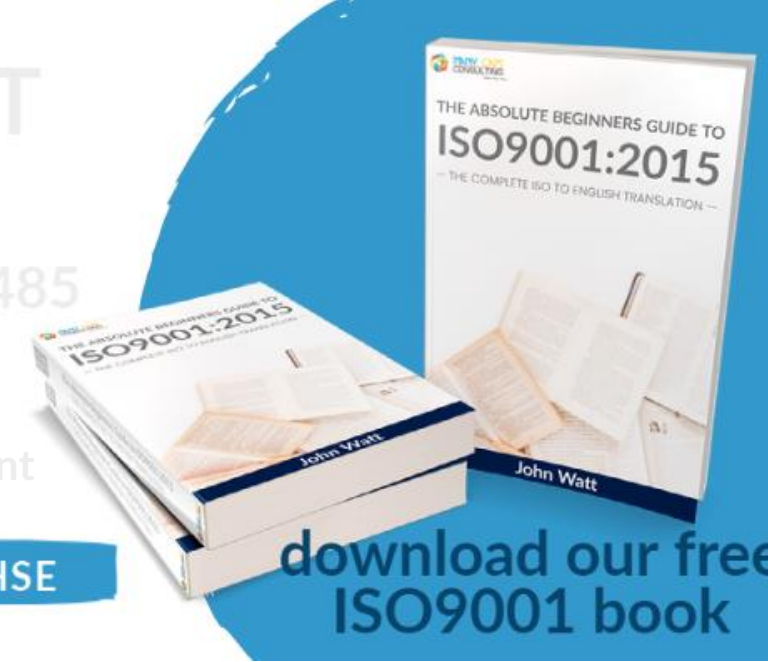
LEADERSHIP

RESPECT  
FOR PEOPLE

KAIZEN

Continuous  
Improvement

LEAN | ISO MANAGEMENT SYSTEMS | MANGO QHSE



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Many Cap Consulting Ltd is a Christchurch NZ based Consultancy Company Helping companies to take a lean approach to business and ISO Management Systems

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# The Biggest barrier to any Lean Transformation

## 1. Your Management Team!

- Lean doesn't work with a command and control approach
- It requires leaders to be more involved and more visible on the GEMBA, not driving a set of charts at a desk.
- It requires them to take a more humble approach and accept they don't know the answers.
- It requires them to want to step out of the fire fighting mode
- It requires them to invest time in developing their people including letting them make mistakes!



# The Biggest barrier to any Lean Transformation

## 2. Short Term thinking



Lean requires you to take a long term view rather than short term or qtr. by qtr. approach.

# What Is Lean?

Lean is the methodology / thinking practices that are employed in order to deliver products to Customers with the highest quality at the lowest cost in the shortest possible lead time.

- We achieve this by using 2 things
- Respect for People and Continuous Improvement

# What Is Lean Management ?

Lean Management is focus on growing people within the organisation through the application of lean thinking (and tools) and of setting a clear goal (sometimes called a true north)

We do this by setting tasks & challenges, standards, providing frequent direct feedback ( – do not sugar coat things!), exposure to Lean tools and the key business metrics and performance results.

# Enabling People to try things

-Verb

“give (someone) the authority or means to do something; make it possible for”



# The 5 Principles of Lean

1. Value is defined from the view point of the Customer
2. VSM lets you See the whole value stream and so makes the issues visual.
3. Flow – Understand what stops things from flowing through your systems without slowing down or stopping
4. Establish Pull – Only make what the customer needs use their 'purchase' as the signal to make more.
5. Seek Perfection – the key word is SEEK, go look for perfection, don't stop keep looking!



# The most important thing to remember about Lean



Its about Thinking, using peoples brains  
and their adaptability



Its NOT about Tools

# Lean Thinking

Q1. What is the Problem we want to solve (True North)



Q2. How will we improve the work that we are doing

**Continuous Improvement**

Q3. How will we develop the people who do the work (at all levels)

**Respect for People**

Q4. What kind of leadership behaviours & Management System will be required to support the new way of working

Q5. What basic thinking or mindset, assumptions will drive this implementation

The Lean Transformation Model House  
Image Credit: Lean Enterprise Institute

*There are 5 questions that we need to keep in mind at every point that we look to change the business from respect to lean*

# Think like a Coach

As the coach you want to get the best performance from your team, how will you do it?

**Ask questions**

**Be a sounding board**

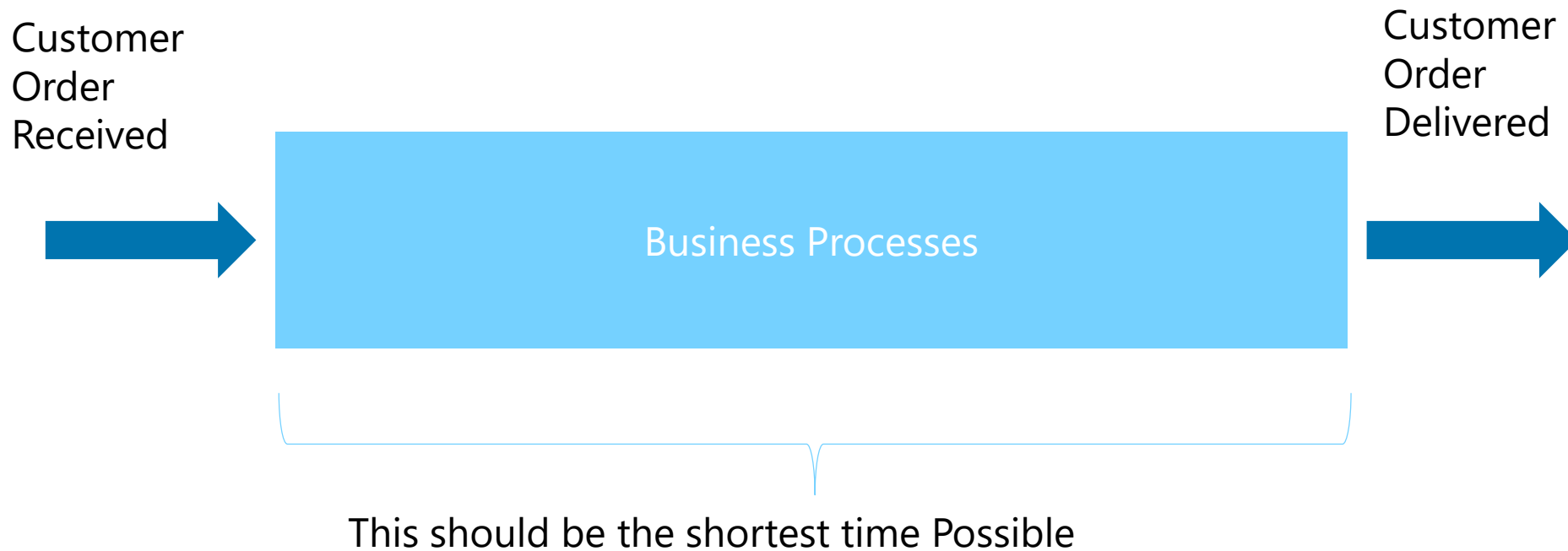
**Be a connector**

**Be challenging**

**Set real targets, not low bars**



# Lean is all about Flow

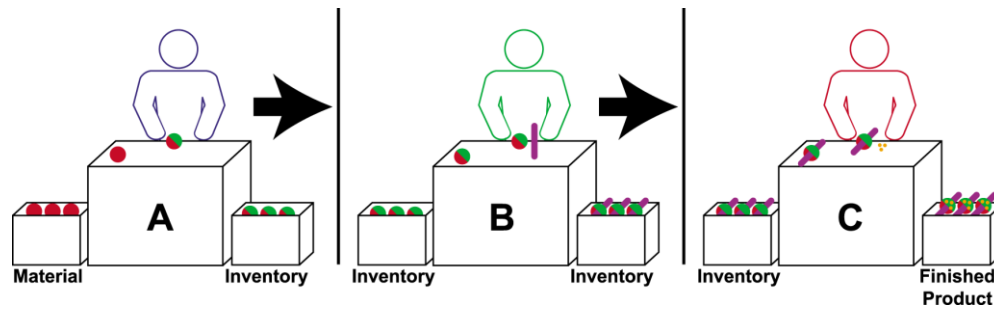


Being able to deliver faster is a strategic advantage but also free's up capacity that can be resold

# What is *Flow* ?

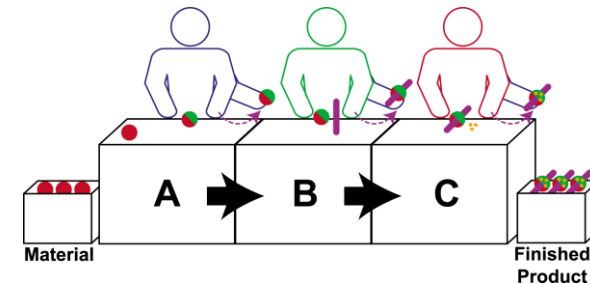
Producing and moving one item at a time (or a small and consistent batch of items) through a sequence of process steps as continuously as possible, with each step making just what is requested by the next step.

## TRADITIONAL



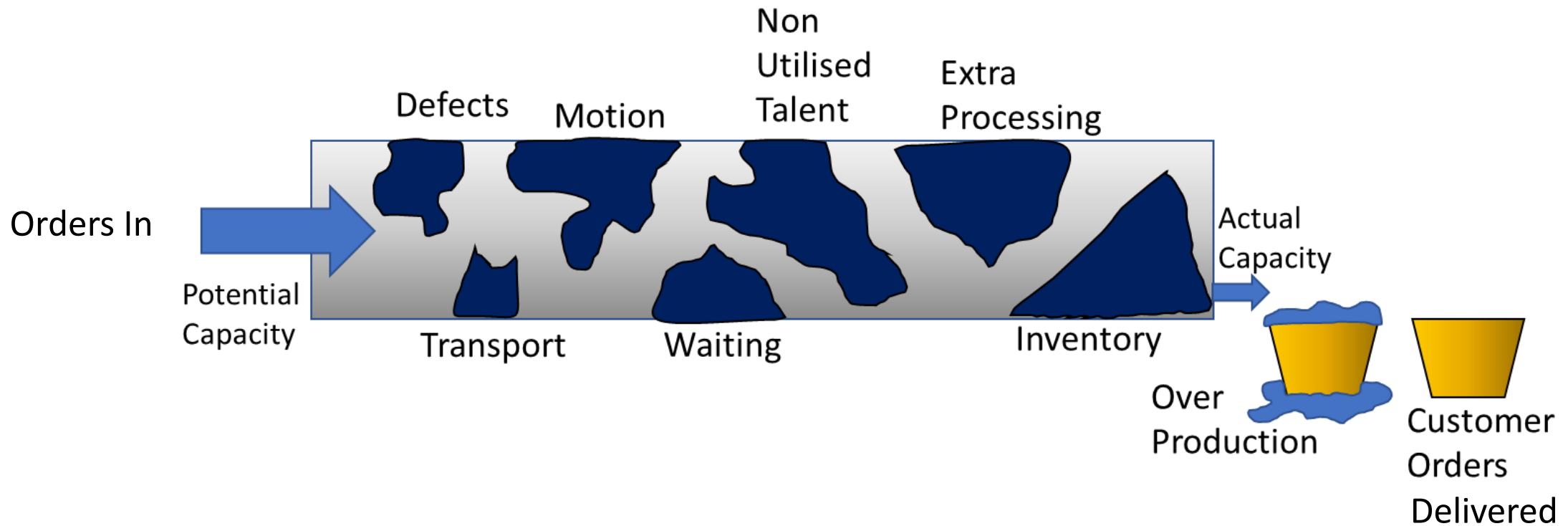
5- 6 Days

## CONTINUOUS FLOW



30 Minutes

# What gets in the Way of Flow



**The More you push into the system the slower it goes!**

# The 3 Keys

## The real 3 keys to improving your flow and increasing productivity and morale!

### Variability (Mura)

- Reduce variability in your process by creating standard work
- Root cause things that go wrong, don't just look at the surface issue
- Be open about problems
- Improve quality

### Overburden (Muri)

- Don't place people or machines under unreasonable stress or require them to meet targets that aren't truly required.
- Ensure you allow time for maintenance
- Can be a consequence of Variability
- Create Standards

### Waste (Muda)

- All non value adding activities are Muda.
- Some are temporary and some are not
- Its easy to focus here and ignore the other 2, do so at your peril!



# Bottlenecks

You can only ever have 1 bottleneck in a process: 1 resource dictates the pace!

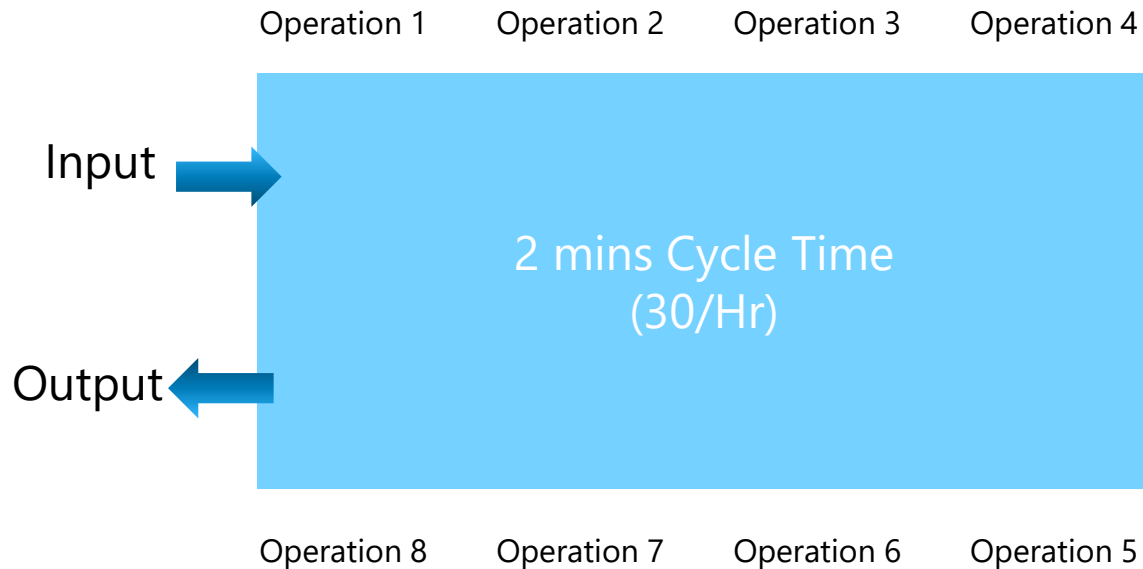
Typically something which is:

- Core resource
- Hi capital
- Hi skill
- Specialist, dedicated
- Not easily replicated or flexed



# Optimise the System not the Individual

In Lean we look to optimize the whole Value Stream, not the individual elements



Operation 4 is the bottleneck, it can only do 30 units per hour

# Takt Time

$$\text{Takt Time} = \frac{\text{Total daily operating time}}{\text{Total daily customer requirement}}$$

$$\text{Operating time} = 1 \text{ shift} \times 8 \text{ hours} - (2) \text{ 20-min. breaks} = 440 \text{ mins/day}$$

$$\text{Customer Requirement} = \frac{880 \text{ units/month}}{20 \text{ days/month}} = 44 \text{ units/day}$$

$$\text{Takt time} = \frac{440 \text{ mins/day}}{44 \text{ units/day}} = 10 \text{ mins/unit}$$

$$\text{Qty of People Needed} = \frac{\text{Cycle Time}}{\text{Takt Time}} = \frac{20 \text{ mins}}{10 \text{ mins}} = 2 \text{ People}$$

Takt time paces production to the pace of customer requirements.

This is a Standard measurement for Lean organisations

# Every Part Every Interval

Once you understand the tack time of the products you can start working out what it would take to be able to make every part / product needed for the day / week / month

## **Benefits of EPEI Approach**

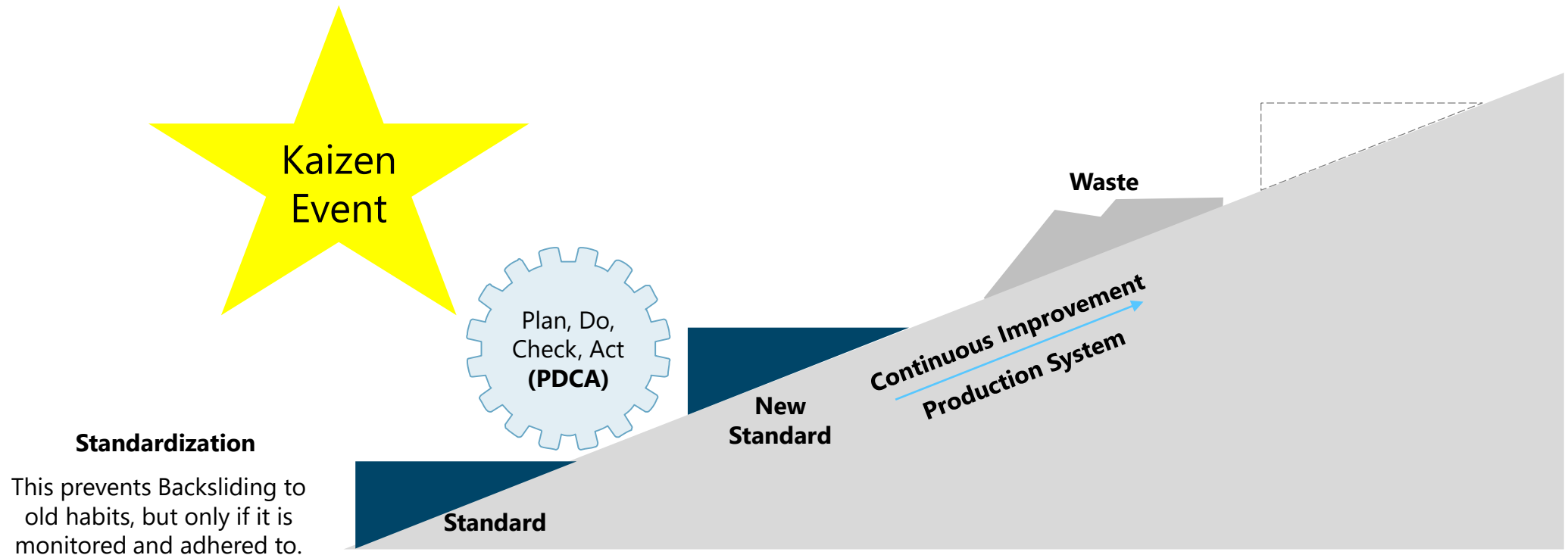
1. Inventory levels are very low
2. WIP Levels are low
3. Smaller batch sizes
4. Variation in the work being done
5. Faster delivery to the customers

## **Challenges of EPEI Approach**

1. Inventory levels are very low
2. WIP Levels are low
3. Lots of Change overs so you need to do SMED!
4. Can only work if you have standards

# The Engine for Lean

No Standard – No Kaizen  
No Respect for People – No Kaizen  
Perfect is the Enemy of Good!



\*) derived from the kaizen standardization approach

# The order of Improvement

- **Easier**
- **Better**
- **Faster**
- **Cheaper**

When you look to do a kaizen there is a clear order you should be thinking about for that improvement

If you make it easier to do a job less mistakes will be made, people wont fatigue, machines wont be worn out.

If it's easier then you can start thinking about how to make the output better, what is the quality elements

Once you have quality and you aren't fatiguing the operator then you can increase the speed.

The result is cheaper product!

# Standard Work

"Where there is no standard,  
there can be no kaizen."  
-Taiichi Ohno (or Masaaki Imai)

Betty has her way, Bob has his and Dave another... sound good?

Standard work is about creating routines and practices to make a process consistent and repeatable and so stable.

Lists of what must be done daily / weekly

Visual images of things (e.g. how to reload the printer!)

Improve  
via Kaizen  
events!

## Benefits:

- Setting a standard establishes a baseline
- Standard work codifies tribal knowledge
- Standard work is an extremely effective training tool
- Standard work ensures the same inputs produce the same outputs
- Standard work provides a safe scapegoat for problem solving

# Types of Standard Work

Standard work is more than just a how to do something on the shop floor, it extends through the entire organisation and at every level.

## **Shop Floor examples**

1. Standard Assembly Instructions
2. Standard Maintenance Instruction (operator & Technicians)
3. How to Inspect
4. How to Clean

## **Other Standard Work**

1. Leader Standard Work
2. Plant Reporting
3. Finance



# Standardised Work Requirements

Standardized work is one of the most powerful but least used lean tools. By documenting the current best practice, standardised work forms the baseline for kaizen or continuous improvement.

As the standard is improved, the new standard becomes the baseline for further improvements, and so on.

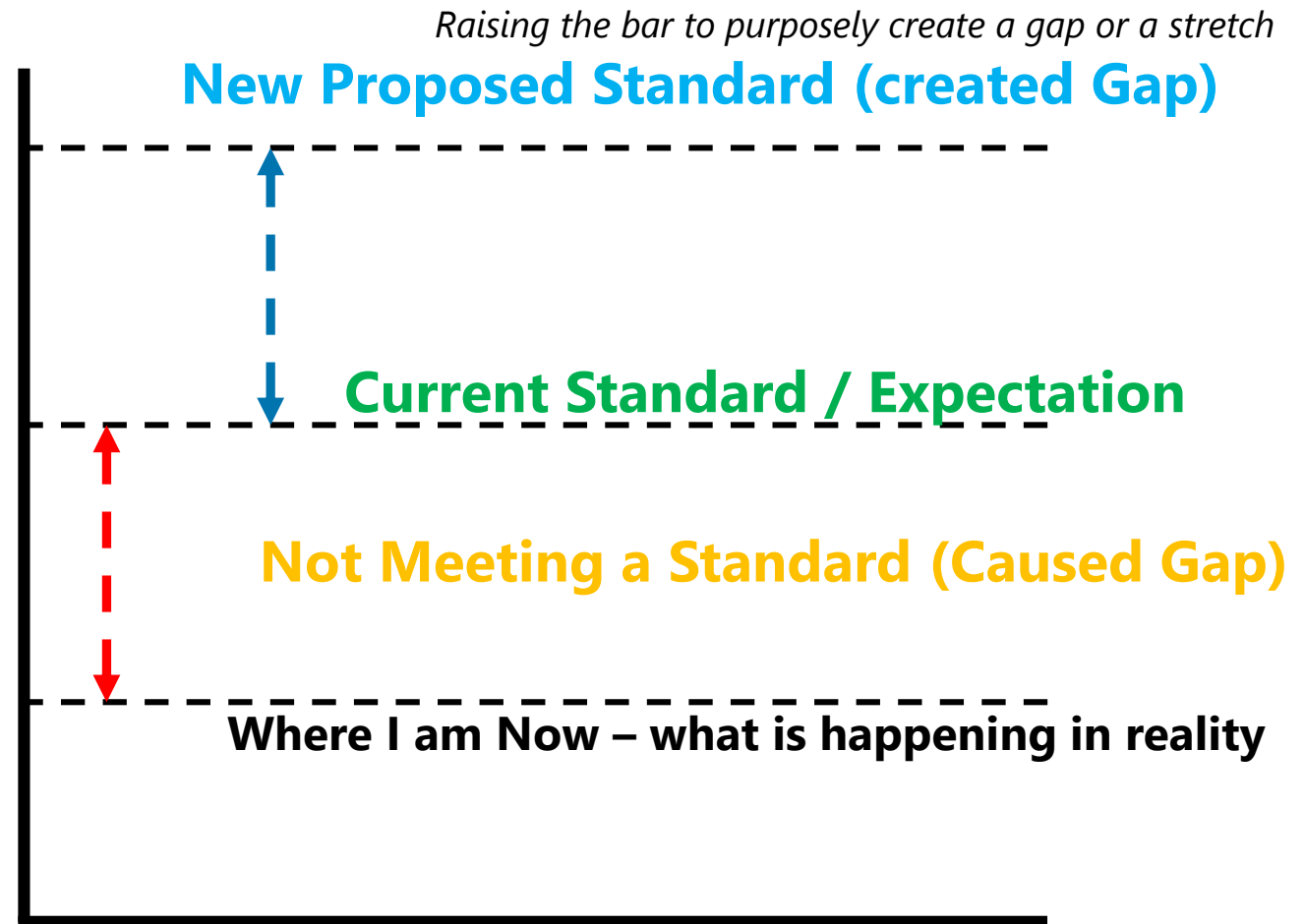
Improving standardised work is a never-ending process.

## **Standardised work consists of three elements:**

1. Takt time, which is the rate at which products must be made in a process to meet customer demand.
2. The precise work sequence in which an operator performs tasks within takt time.
3. The standard inventory, including units in machines, required to keep the process operating smoothly.

# Created Vs Caused Gaps for Root Cause

By understanding where you are Vs the standard and what type of gap that is you can decide on an approach to take to solve the problem



# GEMBA Walks – Your secret Weapon

Gemba means The Place where the value is created, that could be the shop floor, the design office, the finance office, it's where ever the work that you need to understand is happening.

Before doing a Gemba Walk however you need a plan, it needs to have a purpose & you should ask Why you are doing it

## **Re-enforcing True North**

Help ensure that everyone understands how what they are doing aligns with the ultimate goal of the organisation and the improvement activity that is going on.

## **Monitor KPI / Visual Management Boards**

View what the metrics are saying Vs what you are seeing with your own eyes, ask people questions to ensure understanding and involvement

## **Observing & assisting with Problem solving and improvement activity**

Understand how these activities are going and what you can do to help them either directly or indirectly.

# Daily output chart for the lines

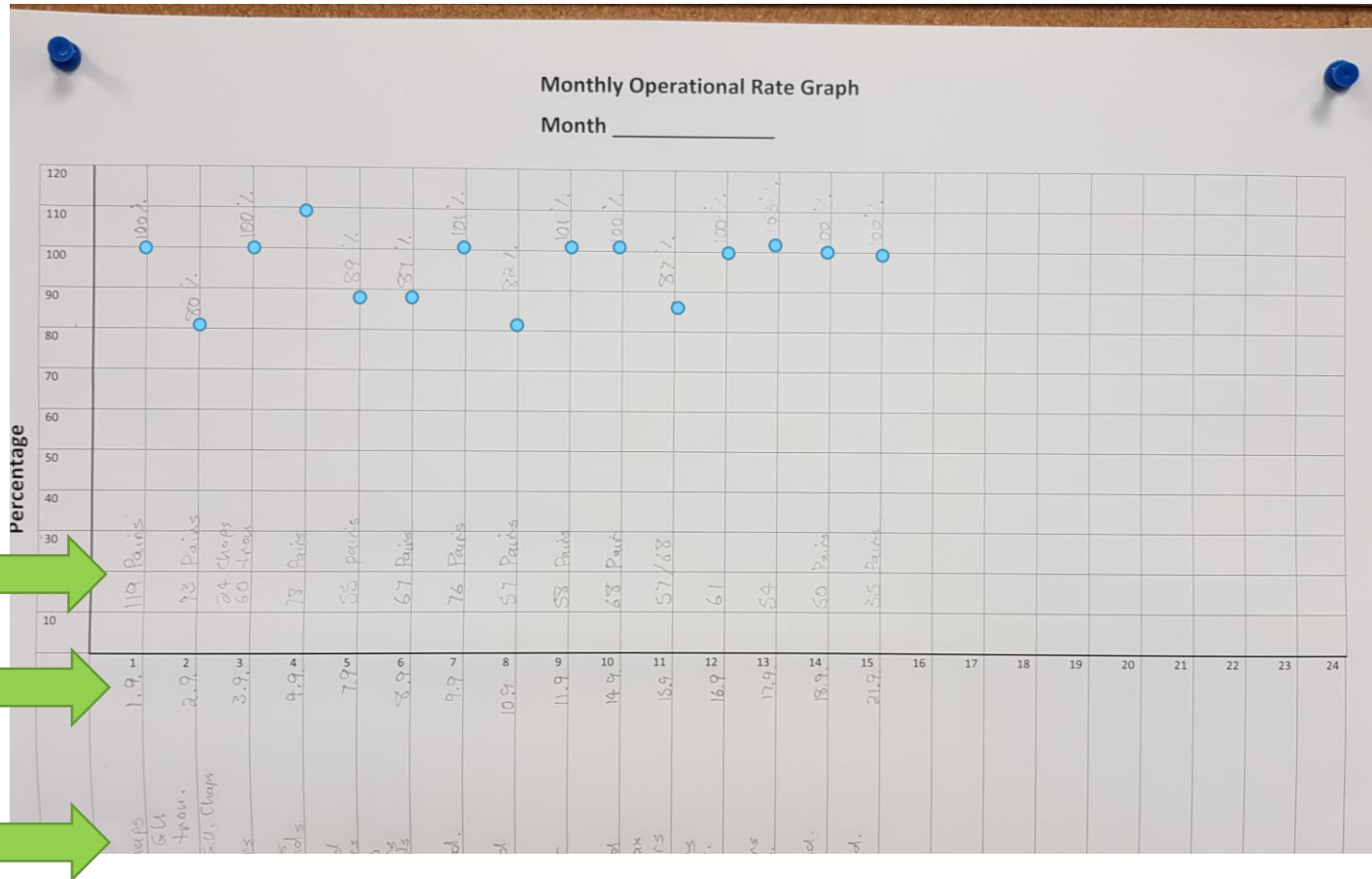
This is the next step for the production team leaders

% of planned daily work achieved →

Qty of items actually made →

% of Months Work →

Product made →



This lets the whole team know exactly how they are tracking every day towards the goal and how they are performing Vs the customer demand.

This will feed the information for the daily stand ups which in turn feed the weekly production meeting which in turn should feed the monthly S&OP process.

# What is Respect for People?

*Respect for people is the attitude that every person can and must contribute to improving their own performance, the performance of others and the performance of the company.*

Not passing on poor quality

Not asking the line to produce 40/hr when you need 30/hr

Not having all the raw materials available when you want start a job

Asking someone to work with a poorly performing machine

Ensuring clear communication & understanding

Asking people what the problem is and challenge them to come up with a solution, discussing it back & forth with them as they go to find the root cause

# What is Respect for People?

*Respect for people is the attitude that every person can and must contribute to improving their own performance, the performance of others and the performance of the company.*

- Demanding better performance Physically going & seeing for yourself
- Ensure discipline to the standards Provide a safe working environment\*
- Provide time to be able to learn Listening to what is truly being said
- Coach and teach how to solve problems, not to solve THE problem
- Not talking about someone differently if they are not in the room Support Initiatives from employees, but don't take over
- Accept you do not know everything and be willing to learn from everyone in the organisation