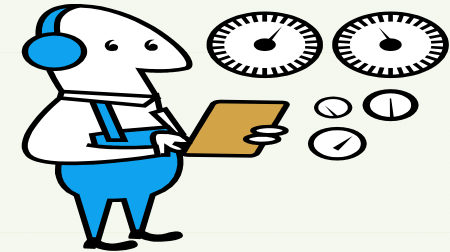


## Outline of Presentation

# Ensure your New Equipment Adds Value to your Business



1. Typical or Traditional Approach
2. The 5 Stages of New Equipment Management
3. 3 Key Concepts to ensure your new equipment adds value:

**Prevention at Source for Design**

**User Friendly Equipment**

**Compliance Testing by Competent People**

4. Making it Happen through a Team approach
5. Key Learning



*‘The order has just been placed for your new equipment - now you just wait for it to arrive, be installed and start running to meet the expectations from your customers’.*

If it were only that simple!

**Many of us have had enough experience to know that it never is!**

**How do we**  
**‘Ensure Your New Equipment Adds**  
**Value to Your Business’**  
*and not cause pain*



# 1. Traditional approach to New Equipment

- Senior Management decide what new equipment is required
- Project Engineering is given the task to scope out the work and arrange any contracts required
- Purchasing are given a Bill of Materials and requested to buy the new equipment not supplied by the contractors
- Equipment arrives and is installed
- Project Engineering arranges for Commissioning then hands over to Production
- Maintenance gets called when it doesn't work
- Production and Maintenance then battle to get new equipment to perform as expected
- Project Engineering don't want to know about any problems because they are busy with the next project

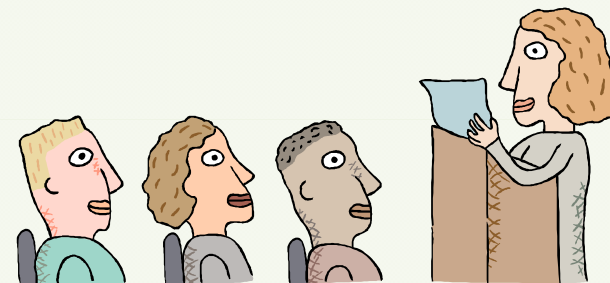




**8 Doors, 85 Adjustment Points**



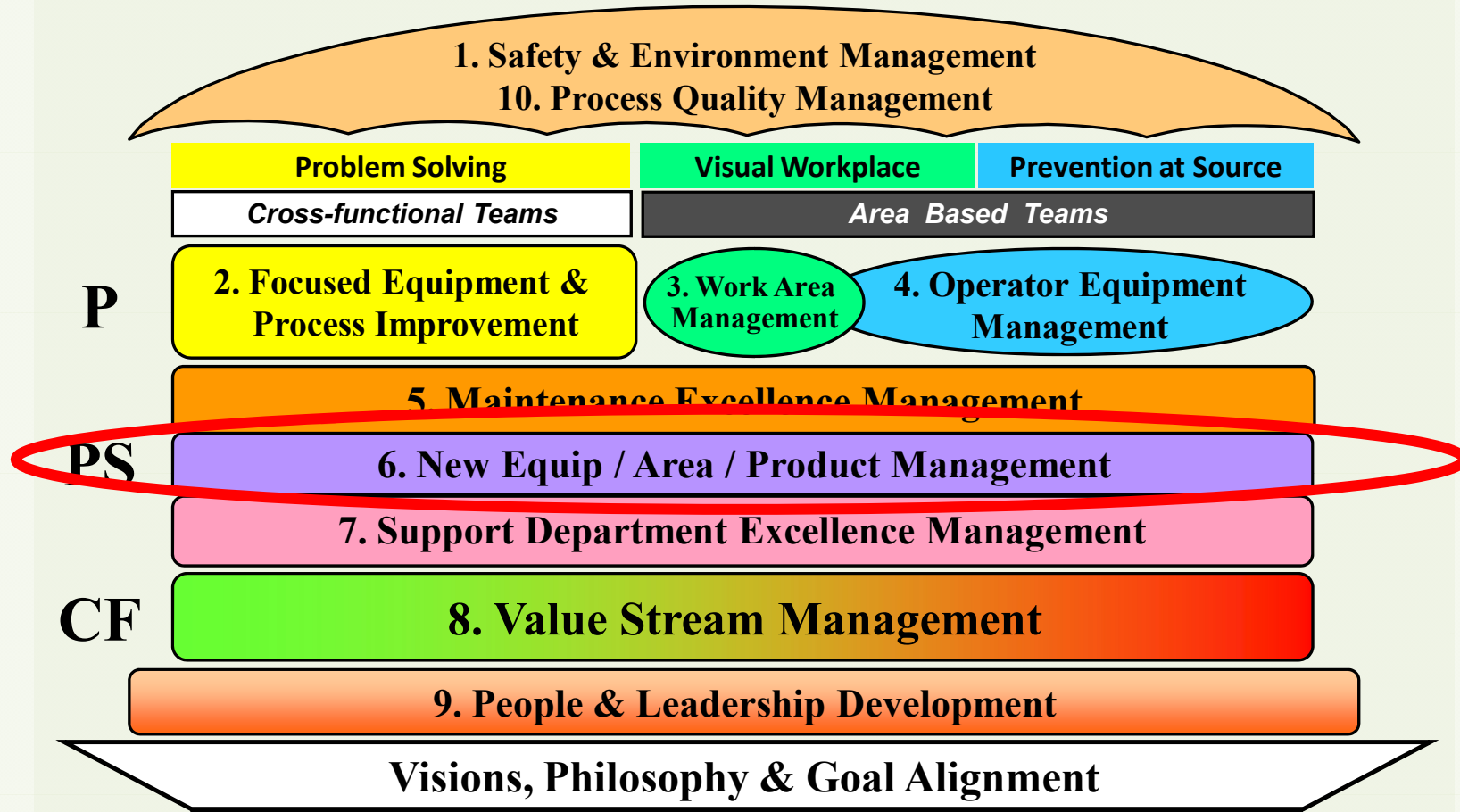
# *Ask the Audience*





# Role of NEM in the Operations Excellence journey

## TPM<sup>3</sup> Framework for TPM & Lean *incorporating 10 Improvement Activities supported by the Leadership Base*



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

## 2. The 5 Stages of New Equipment Management

**Stage 1**      **Design** (*Specification & Performance*)

**Stage 2**      **Procure** (*Purchase, Transport & Store*)

**Stage 3**      **Accept** (*Factory Test & Receipt Test*)

**Stage 4**      **Install & Commission** (*Production Acceptance*)

**Stage 5**      **Perform, Monitor & Learn** (*Post-Launch*)





### 3. 3 Key Concepts to ensure your new equipment adds value *and not cause pain*



## The Concept of ‘Prevention at Source for Design’ for New Equipment isn’t understood or practiced

Getting all affected parties involved at the earliest possible  
time to use their collective experience to specify and design  
the new equipment

*so any problems are identified at the earliest possible time*

for example: during design, rather than during commissioning

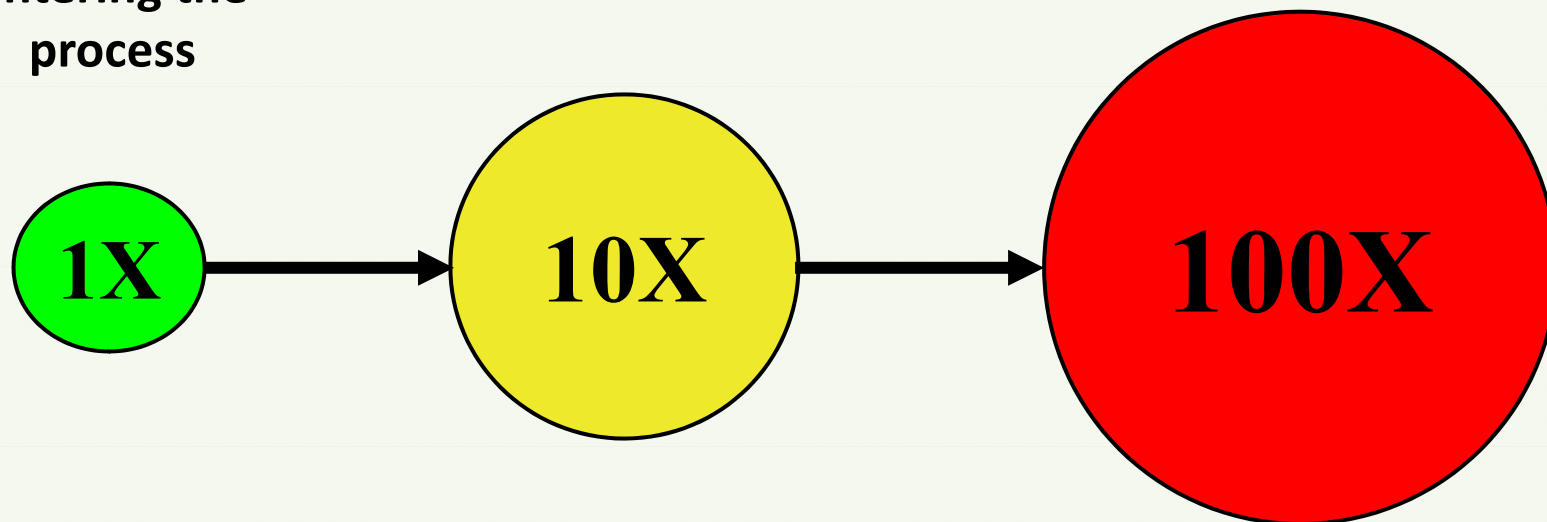
# Prevention at Source for Product

The cost of Product Defects when they are:

Prevented from  
entering the  
process

Internally Detected

Customer Detected



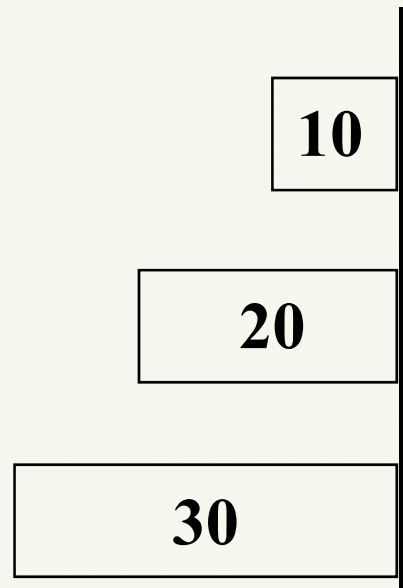
*finding problems at the earliest possible time*

# Prevention at Source for Design



## Shipbuilder A

*Thousand man-hours*



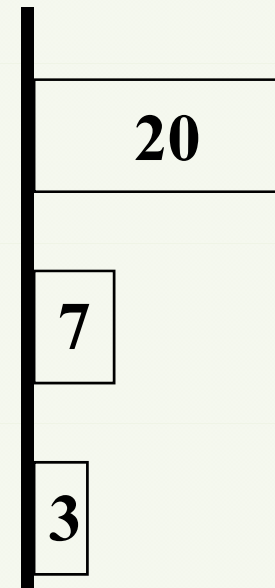
**Definition**

**Design**

**Redesign**

## Shipbuilder B

*Thousand man-hours*



**60,000 man-hours Vs 30,000 man-hours**



### 3. 3 Key Concepts to ensure your new equipment adds value *and not cause pain*



**The Concept of ‘User Friendly’ for New Equipment  
isn’t understood or practiced**

“Engineers traditionally look at *Functionality*  
as the prime objective of design and often pay limited  
attention to *Operability, Maintainability,*  
*Standardisation* and *Trainability*”

# Examples of User Friendly Equipment

<b><i>Operability</i></b>	<ul style="list-style-type: none"> <li>• Easy to Clean and Inspect for equipment defects</li> <li>• Easy to Access for Cleaning, Inspecting and Servicing</li> <li>• Easy to find Safety, Quality and Equipment problems at the earliest possible time</li> <li>• Easy to monitor equipment condition</li> <li>• Easy Set-ups and Changeovers</li> </ul>
<b><i>Maintainability</i></b>	<ul style="list-style-type: none"> <li>• Maximum life of components to reduce Planned Downtime</li> <li>• All repairs completed within 1 hour to allow work to be completed during regular Clean for Inspection time</li> <li>• Excellent documentation so it will be easy to train operators in the functioning of the equipment</li> <li>• Visual Controls to highlight equipment condition</li> <li>• Good identification tagging of equipment so Operators can easily explain where problems are</li> </ul>
<b><i>Standardisation</i></b>	<ul style="list-style-type: none"> <li>• Minimum type of nuts &amp; bolts</li> <li>• Site Standard Pneumatics</li> </ul>
<b><i>Trainability</i></b>	<ul style="list-style-type: none"> <li>• Easy to understand and comprehensive Standard Operating Procedure, Work Instructions, Job Breakdown Sheets, Standardised Worksheets</li> </ul>

# Operability

*It's the Frontline who create the bottom-line*

**Making equipment so it is easy for Operators to:**

1. Identify process and quality problems at the earliest possible time
2. Identify equipment defect at the earliest possible time
3. Conduct Set-ups and / or Changeovers in the shortest possible time

**Remember!**

*Make it easy to do right and difficult to do wrong*



Examples of 'User Friendly'

# Equipment Visual Controls



Examples of 'User Friendly'

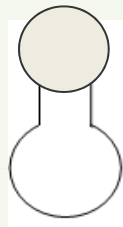
# Equipment Visual Controls



**Visual Inspection of belts stretching,  
with the machine working.**



**Fastening guards  
without tools.**



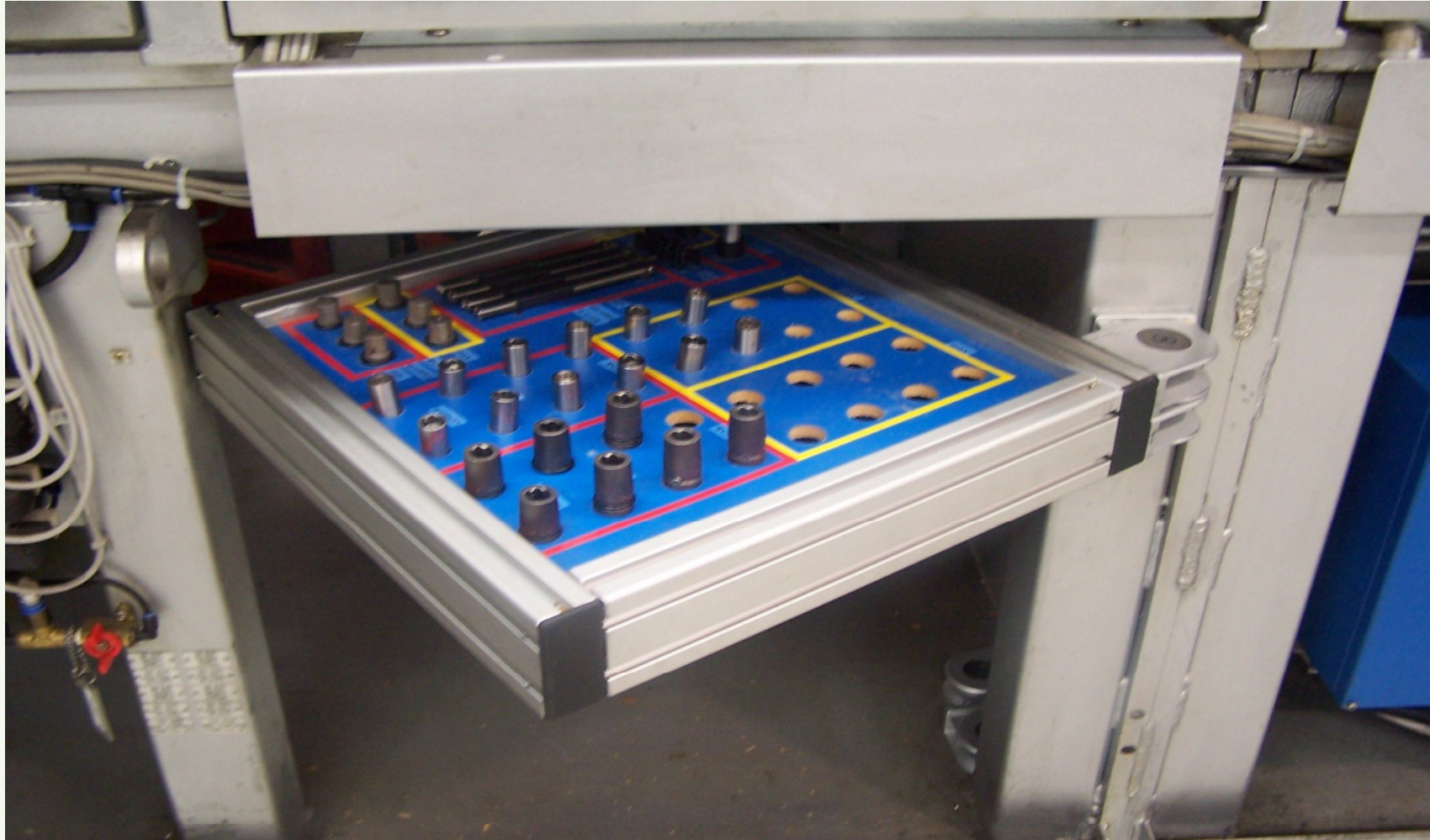
**Pulleys and Sprockets:**

**Must have indication of rotation direction  
and visual working indication, coloring  
them orange and green.**



Examples of 'User Friendly'

# Visual Workplace





Examples of 'User Friendly'

## Visual Workplace – Changeover Trolley



### 3. 3 Key Concepts to ensure your new equipment adds value *and not cause pain*



### **The Concept of ‘Compliance Testing by Competent People’ for New Equipment isn’t understood or practiced**

Sending the Project Engineer or Operations Manager overseas to check equipment before it is dispatched rather than the people who will be operating and maintaining it

Believing that transporting equipment from overseas doesn’t cause problems



# What can a Container Experience?















"...I can assure you, your order is on the water..."





"...your shipment is waiting to be released..."



"...sure, we can do drop shipments..."





"...looks like your order has been bumped..."

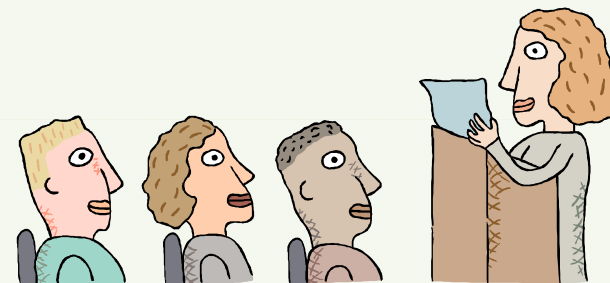




**Believing that transporting equipment from overseas doesn't cause problems – hence need for good Compliance Testing**



# *Ask the Audience*



## 4. Making it Happen through a Team Approach

Stage	Team	Purpose
1	Macro NEM - Design (Spec & Performance)	Develop specification for procuring a New Production Line / Process / Plant eg New Bottling Line
	Micro NEM - Design (Spec & Performance)	Develop specification for procuring a section or piece of New Equipment eg New Filler for Bottling Line



## 4. Making it Happen through a Team Approach

Stage	Team	Purpose
1	<b>Macro NEM - Design (Spec &amp; Performance)</b>	Develop specification for procuring a New Production Line / Process / Plant eg New Bottling Line
	<b>Micro NEM - Design (Spec &amp; Performance)</b>	Develop specification for procuring a section or piece of New Equipment eg New Filler for Bottling Line
2	<b>Special Micro NEM - Procurement</b>	Identify supplier(s) and arrange purchase contracts, transport and storage

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4	<b>Special Micro NEM - Install &amp; Commission</b>	Install and Commission New Equipment and if necessary, modify to ensure it is <i>“User Friendly”</i>



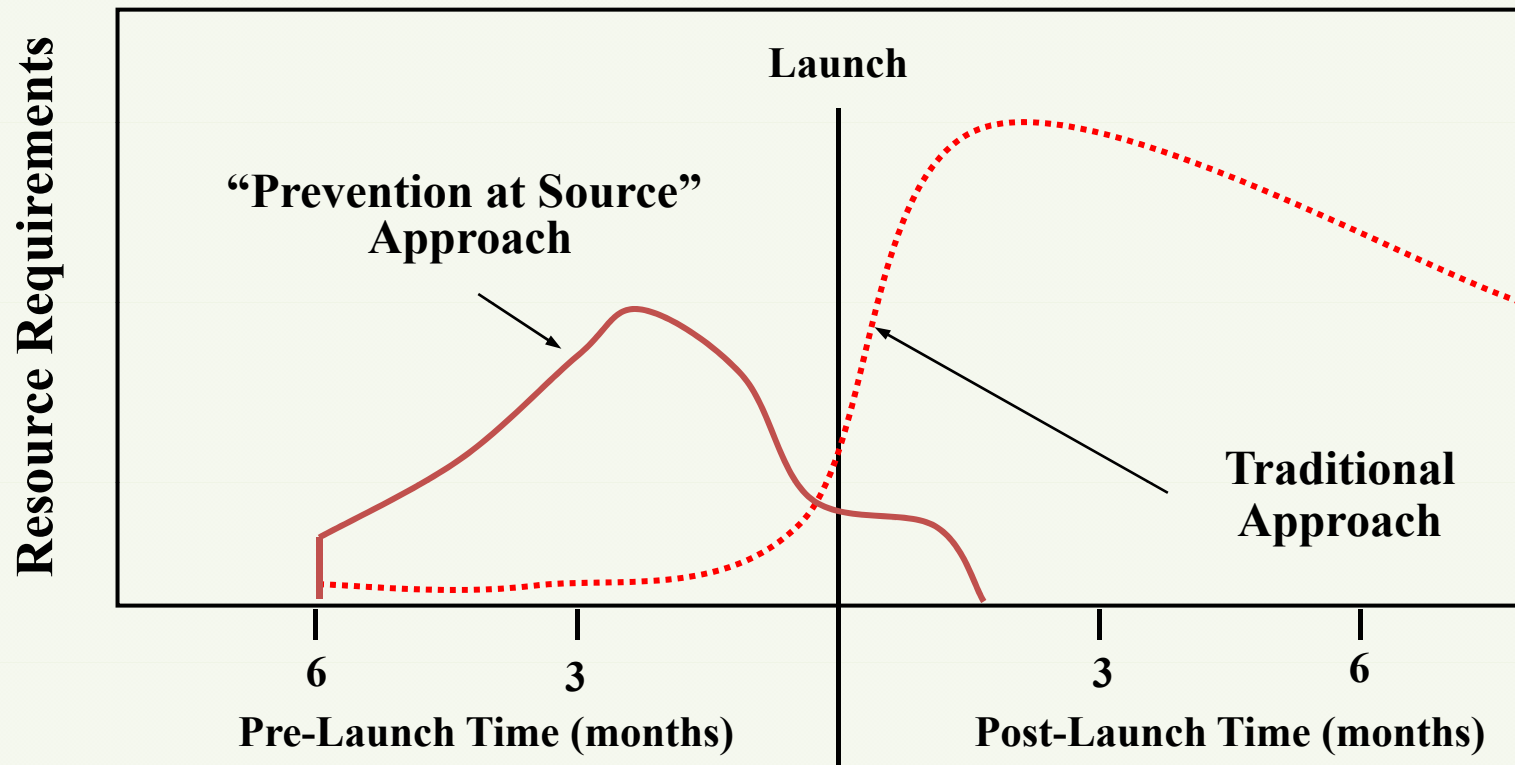
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4	<b>Special Micro NEM - Install &amp; Commission</b>	Install and Commission New Equipment and if necessary, modify to ensure it is <i>“User Friendly”</i>
5	<b>WAM / OEM - ABTs and FE&amp;PI – XFTs</b>	Performance, Monitor and Learn through rapidly progressing Work Area Management and the 7 steps of Operator Equipment Management Area Based Team (ABTs) activity supported by Focused Equipment & Process Improvement Cross-functional Teams (XFTs)

# 5. Key Learning

## Resource Impact from “Prevention at Source”

Total Resources Involved = Area Under Curves



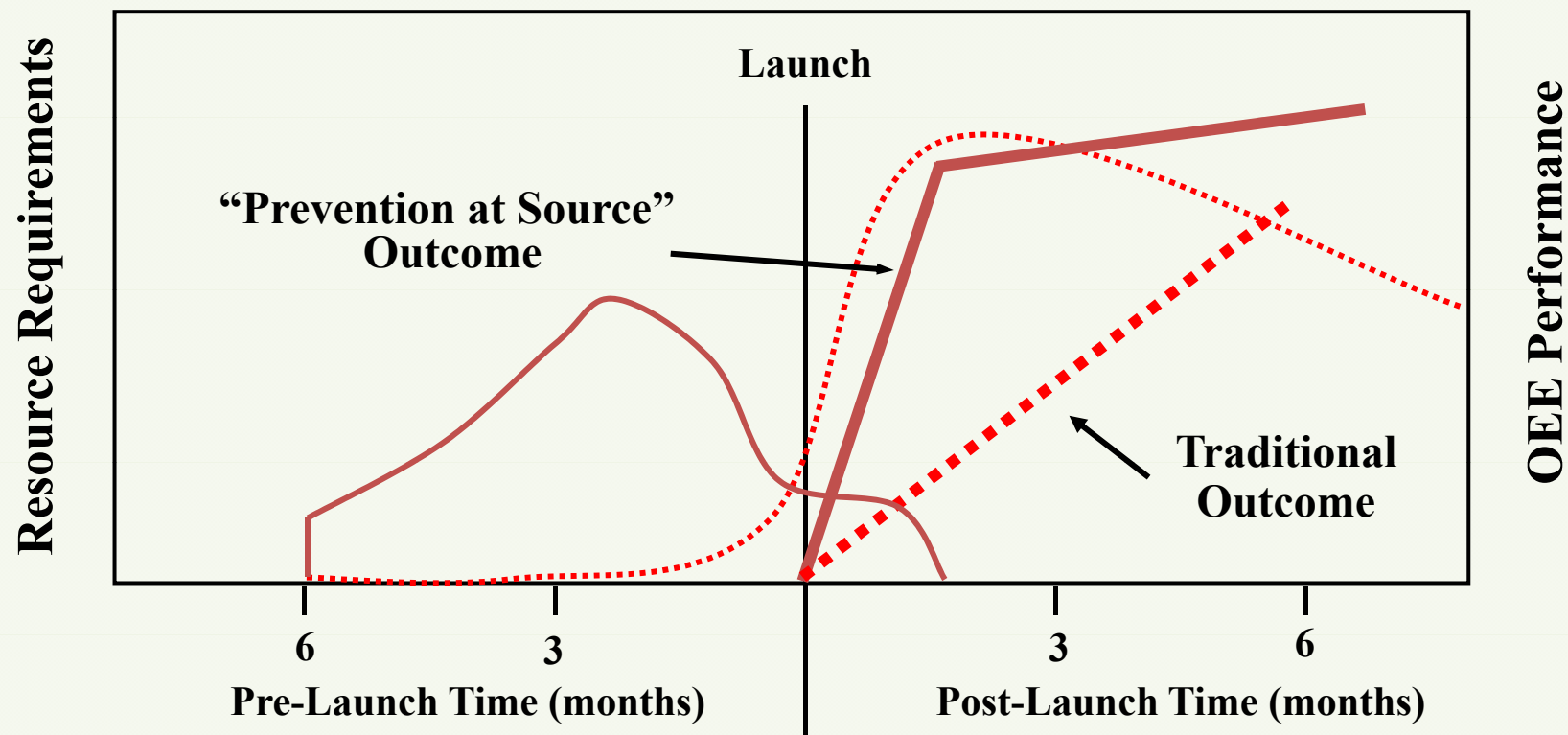
### Learning:

More resources up front but overall much less total resources required

# 5. Key Learning

## OEE Performance Impact: “Prevention at Source”

Total Resources Involved = Area Under Curves



### Learning

Less problems at launch resulting in much higher OEE in shorter timeframe





# Case Study



## Further Team's to have undertaken NEM:

Cycle	Team Name	Area of Focus	Date
Cycle 5	Mead for Speed	Bottling Line - BW250 - Clusterpak	Feb 2005
Cycle 5	Warp Speed	Bottling Line - Rinser, Filler & Crowner	Feb 2005
Cycle 10	The Label Guys	Bottling Line - Innoket Labeller	Feb 2007
Cycle 14	NewPal	Bottling Line - Palletiser	April 2008
Cycle 14	Nice Cans	Bottling Line - Can Filler	April 2008
Cycle 16	Filter Blockers	Lager Cellar - New Filtrox Filter	Oct 2008
Cycle 17	Multipaks	Bottling Line - Multipak Machine DD1250	Jan 2009
Cycle 22	Newpak	Bottling Line - Packer	April 2010
Cycle 22	De- Palletiers	Bottling Line - Depalletiser	April 2010
Cycle 27	Mr. Beer	Homebrew - Mr. Beer	Jan 2012
Cycle 31		Bottling Line - New Line 2	April 2013

Coopers Brewery - 10 Years of Continuous Improvement

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# Final Messages

*Unless the focus of your organisation's improvement journey is the on-going development of all your people through both Cross-functional Teams and Area Based Teams, your quest to achieve and sustain Operations Excellence will become a dream rather than reality.*

*The most successful sites are those that have fun making things happen*



# How can we help?

[www.ctpm.org.au](http://www.ctpm.org.au)

**OPERATIONS EXCELLENCE "Live it, don't Dream it"**

## Getting TPM & Lean to Work

*in an Australasian Workplace*  
covering Manufacturing, Process, Mining & Utilities

**Properly implemented...**  
TPM engages your people  
LEAN transforms your business

**Without engaged people, your transformation will not sustain**

Have your improvement initiatives stalled or taking too long?  
Are the road blocks to Operations Excellence just too great?  
Are your Team Leaders ineffective and everyone else in the Leadership Chain managing down a level?

This Interactive 2-day Workshop will take the mystery out of integrating all the principles, tools, and concepts from TPM & Lean.

It will cut through all the confusion and provide an approach that sustains in an Australasian workplace environment.

**Learn:**

- How to engage your people and achieve significant sustained improvement
- A means to integrate your existing improvement activities into a proven pathway that ensures sustained results
- The subtleties of on-going improvement that differentiates the best from the average

**Hear:**

- Case Studies from sites that have made significant progress in their transformation to Operations Excellence


This workshop is based on over 15 years of hands-on refinement of what is now acknowledged as one of the most comprehensive strategic pathways and frameworks for Operations Excellence.

Presented by Ross Kennedy and the team from CTPM who are currently assisting over 30 sites throughout Australia, New Zealand, Thailand and Indonesia on their journey to Operations Excellence.

**Melbourne VIC - 6 & 7 August 2014**  
**Sydney NSW - 27 & 28 August 2014**

*"A lot was packed into 2 days and represented very good value for the time invested. The program is an ideal and motivational way to unify existing and new improvements and deliver measurable outcomes."* Manufacturing Manager, Criterion Manufacturing NZ

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 **CTPM**  
Australasia



**10 YEARS OF  
CONTINUOUS  
IMPROVEMENT AT**





# Question Time



**Presentation by:**  
**Ross Kennedy**  
**President CTPM Australasia**

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