

IQPC Lean & Six Sigma in Mining

Lean Leadership: Keys to Successful Process Improvement

Alister Lee

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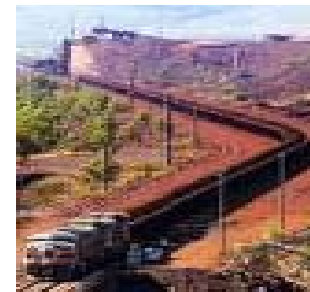
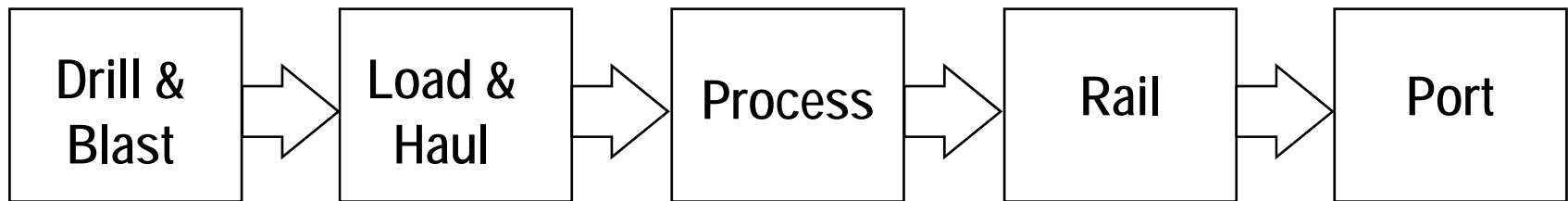
Outline

- Vision
- Implementation
- Leadership



Vision

Focus on the processes ...



... the results will take care of themselves.

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Vision

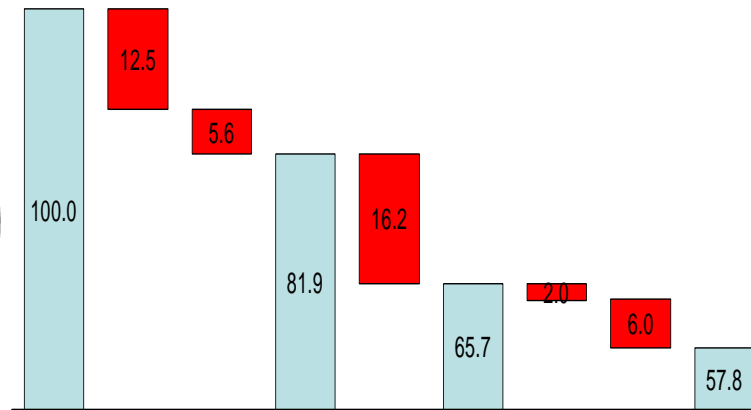
Problems with the current state ...



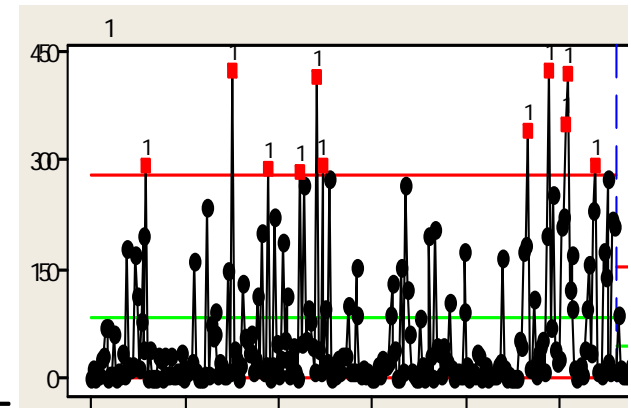
Waste



Downtime / Losses



Unstable processes



Vision

Problems with the current state ...



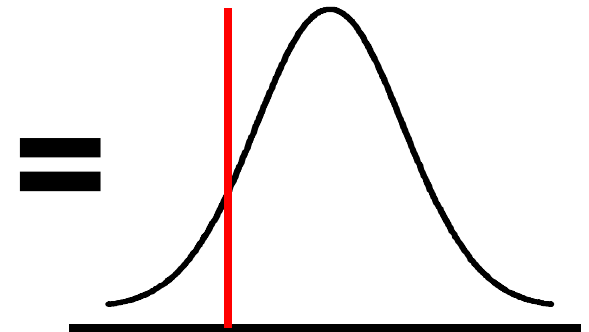
Bottlenecks



**Stockpiles
too much / too little**



**Long lead times &
variation in output**



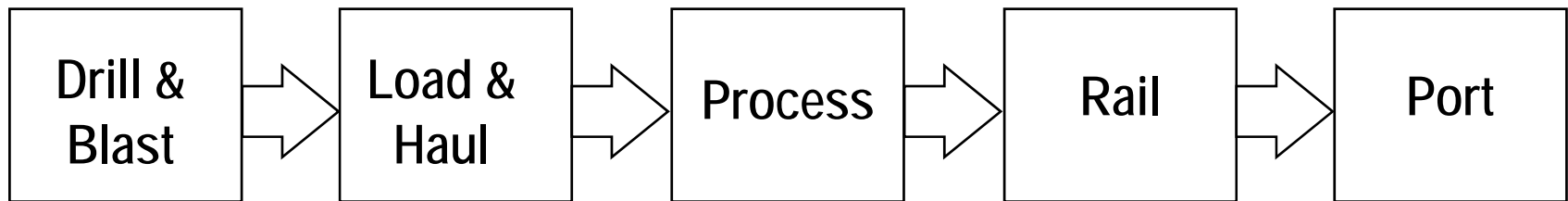
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Vision

Future state – what does lean mining look like?



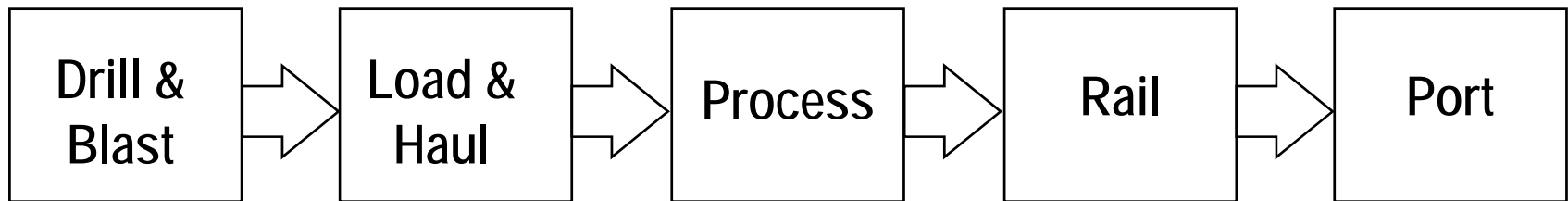
Each step in the process is:-

- 1. Valuable** – judged by customer (waste, standardisation, 5S, visual workplace)
- 2. Capable** – stable process (standardisation, problem solving, process control)
- 3. Available** – uptime (preventative maintenance, quick changeover)
- 4. Adequate** – just enough capacity (balanced to customer, eliminate bottlenecks)
- 5. Flexible** – changes to customer requirements (changeover & error proofing)



Vision

Future state – what does lean mining look like?



The steps are linked by:-

1. **Flow** – uninterrupted flow wherever possible (takt)
2. **Pull** – rather than push (stockpile = buffer)
3. **Levelling** – reduce variation



Implementation

- Lean is a **system** not a set of tools.
- Learn how to use **value stream mapping** and use this to plan the implementation. Area managers own their part of the value stream.
- Get the **basics** in place – standardised work owned by the operators, 5S & workplace organisation, visual management, process control and problem solving (PDCA).
- Use **Kaizen events** (short, intensive, team based improvement projects) to generate significant gains & employee enthusiasm.



Implementation

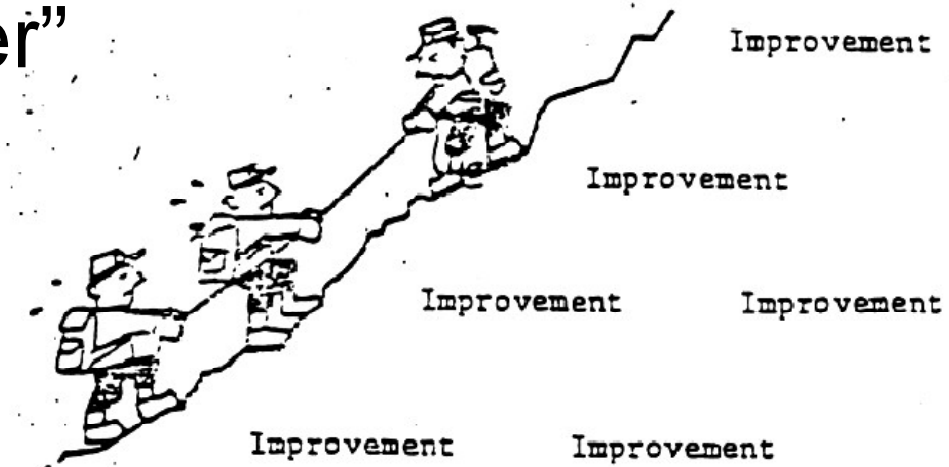
- Apply the **right tools** to the job in the right order (lean & six sigma). Avoid initiative overload.
- Aim for wide **involvement** of the workforce in addition to some full time people dedicated to process improvement.
- **Go and see** other companies who have made good progress.
- You are changing **the way you do business** – this takes time, respect for people, involvement, training, mentoring, discipline and persistence.



Leadership

Three Models

- Old “Dictator” Style: “Do it my way...”
- “Empowerment” Style: “Do it your way...”
- Lean Style: “Follow me... and we’ll figure this out together”



Leadership

Changing mindset:-

From

Managing numbers

5 who's

Firefighting

Problem hiding

p-D-p-D

Production highs/low

To

Managing process

5 why's

Fire prevention

Problem solving

PDCA

Consistency



Leadership

3 attributes of lean leaders at every level:

- **Go see:** Visit the point where value is actually being created; verify the situation.
- **Ask why:** What is the problem? What are possible countermeasures? Why is one countermeasure the best?
- **Show respect:** Assign clear responsibility for every process & problem; ask questions about people's work



Leadership

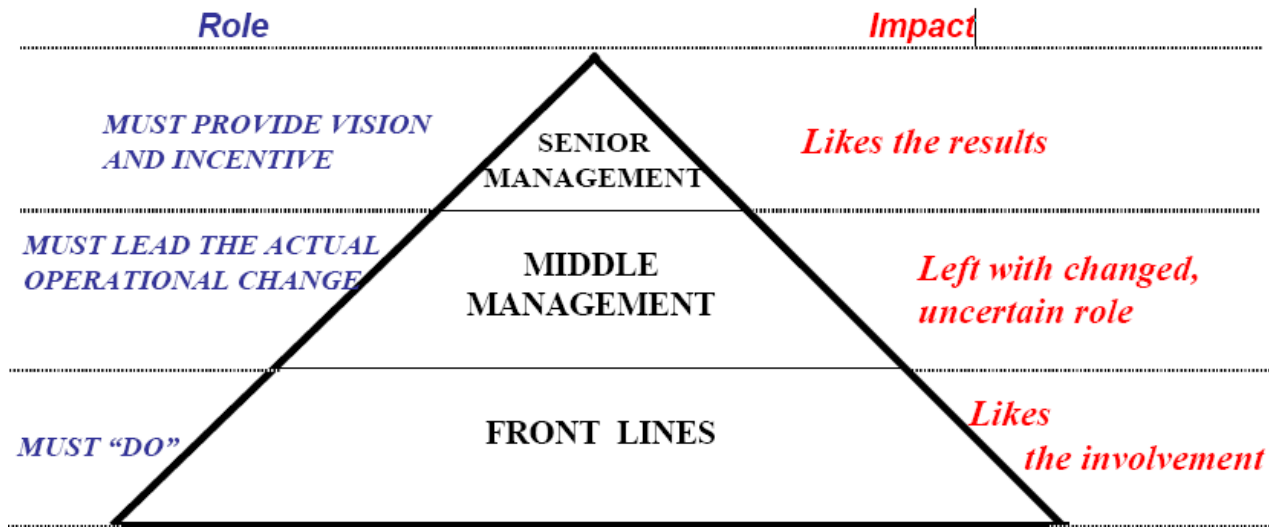
The Leader's Job at Toyota...

- **First**, get each person to take initiative to solve problems and improve his or her job.
- **Second**, ensure that each person's job is aligned to provide value for the customer and prosperity for the company.



Leadership

Role of and Impact of Lean on Leadership Levels



A Difficult Struggle at the Mid-management and First Line Supervisory Level

john shook

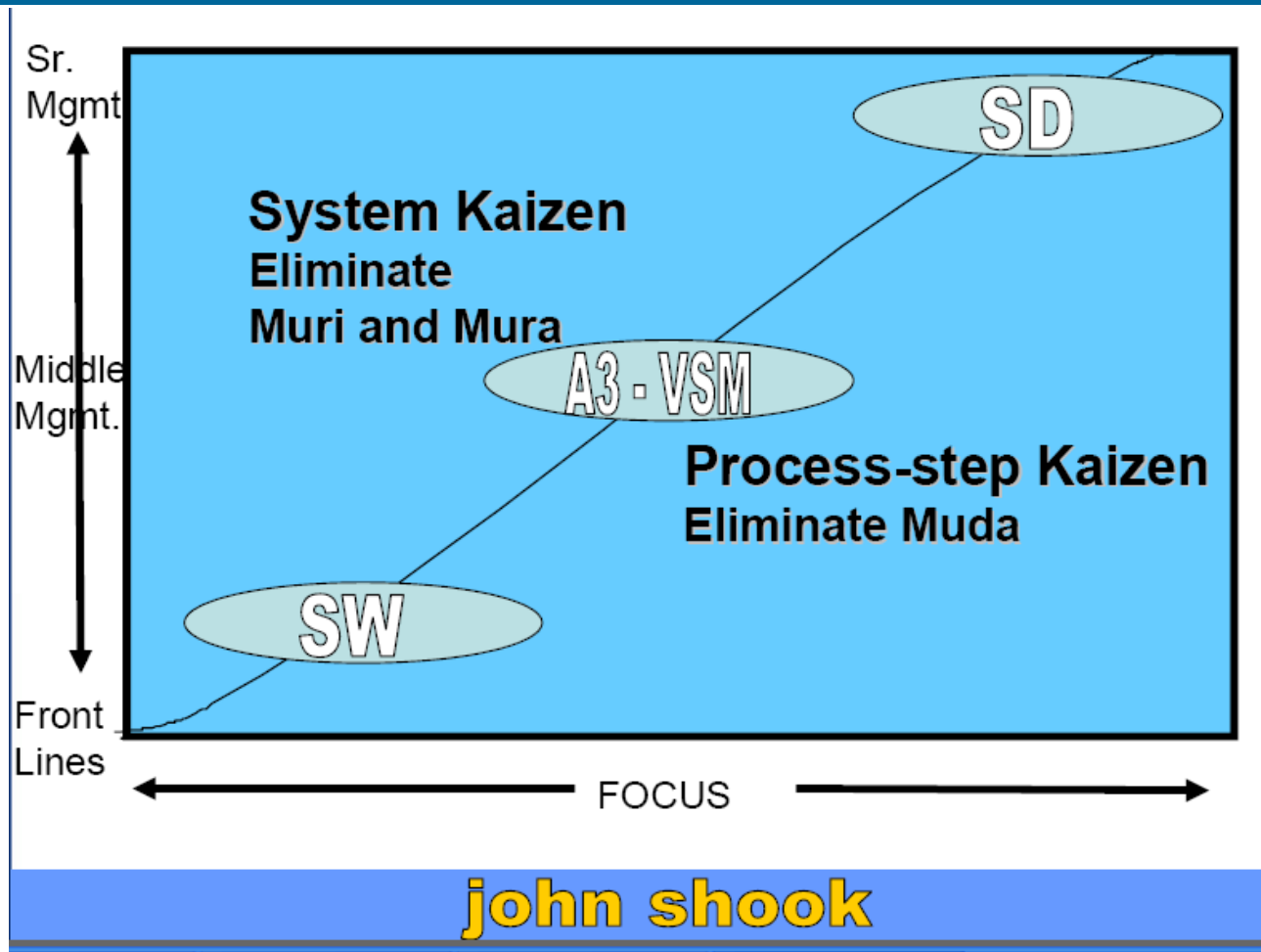
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Source: John Shook, Lean Institute

Leadership



Leadership

Lean Enterprise Transformation



Where Do You Start - From Top or Bottom?

john shook

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Final thought

A Toyota view:

“We get brilliant results from average people managing brilliant processes.

We observe that our competitors often get average (or worse) results from brilliant people managing broken processes.”

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