•Theory of Constraints and Authentic Leadership journey to Excellence

Katlego Mabote :TOC Optimization Manager South Africa :Lonmin

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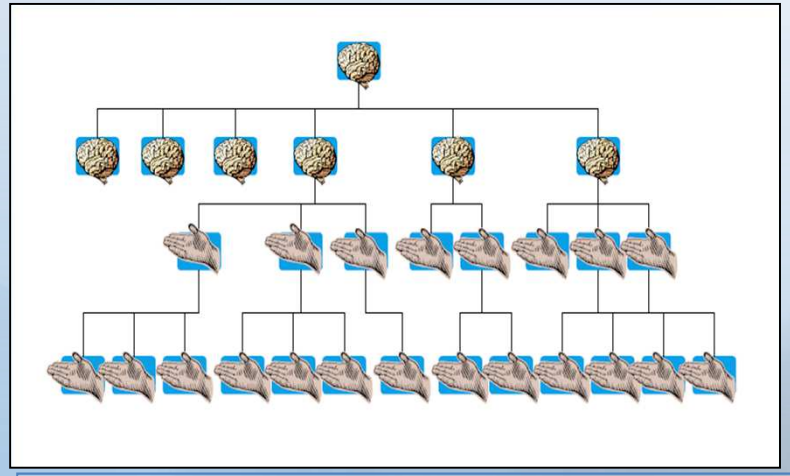
Katlego Mabote Resume

Katlego Mabote is a qualified Industrial Engineer. He is currently studying for Master Qualification in industrial Engineering . Katlego worked for BMW as a Quality / Process engineer trainee . He al so a Six Sigma Black Belt. He later joined BHP Billiton where he was employed as an Operational Excellence and Business Improvement specialist . Katlego joined De Beers and based at De Beers Consolidated Mines Voorspoed Mine where he works as a Continuous Business Manager focusing on the climate, culture and practices of embracing people process and system business improvements in the company and achieved the Highest CBI maturity level of 2.8 in four Years .

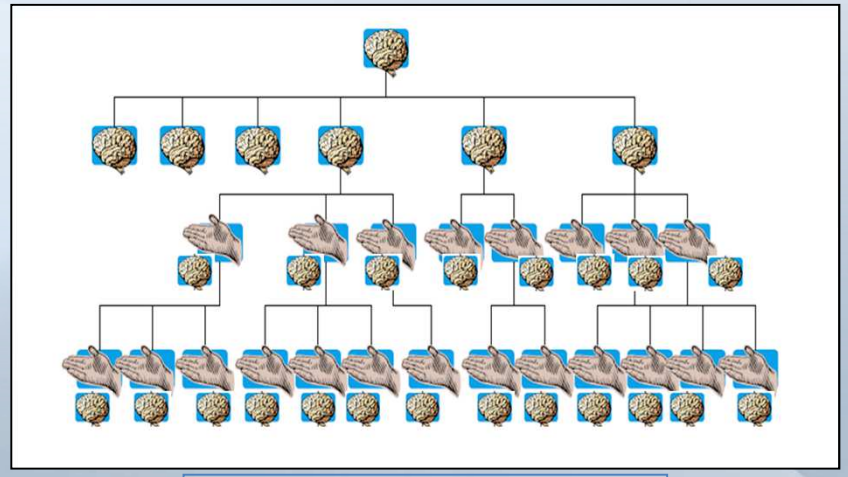
Katlego is currently working as Optimisation Manager for Lonmin for focusing on TOC.

TOC and Authentic Leadership Journey towards Excellence Conversations to be Outlined

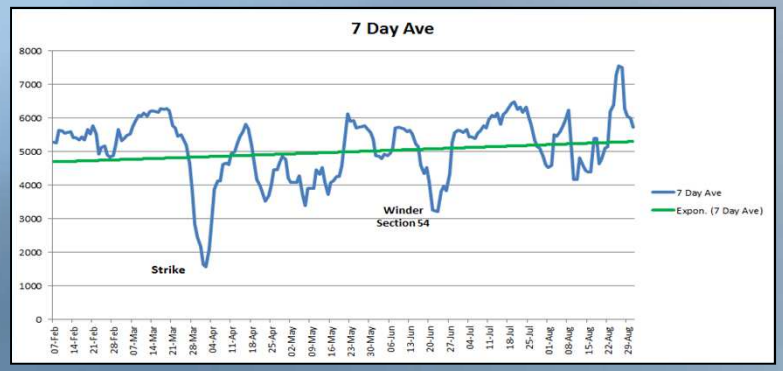
What to Change in Leadership



What to Change to leader behaviours



Variability to Remove "W" –Effect Analysis



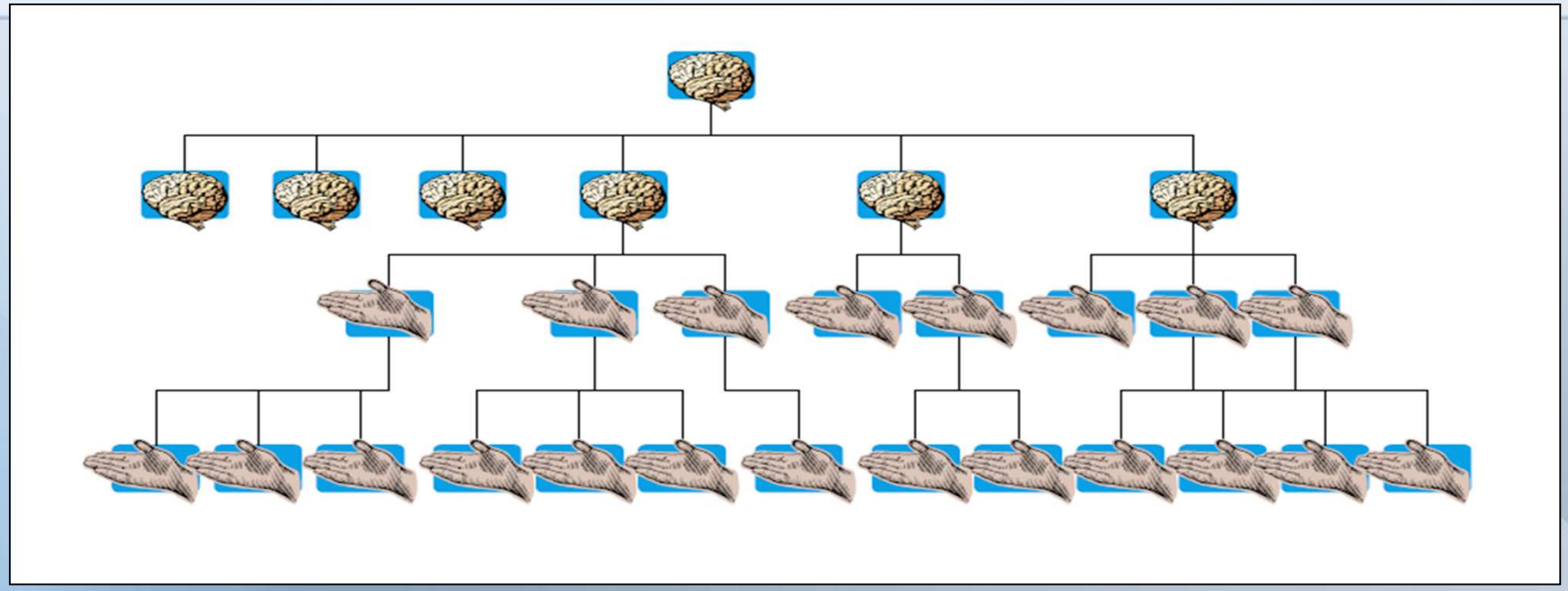
New leader Behaviour

3 Focus Areas of the Topic

- Authentic Leadership journey
- TOC approach to Change
- Profit and Sustainable behaviors

Investing in TOC as a strategic approach to identify bottlenecks and sustainable leadership to ensure profitable future and excellence, How Lonmin is investing in TOC and the results Lonmin is achieving

Defining the Current Structure and leadership model

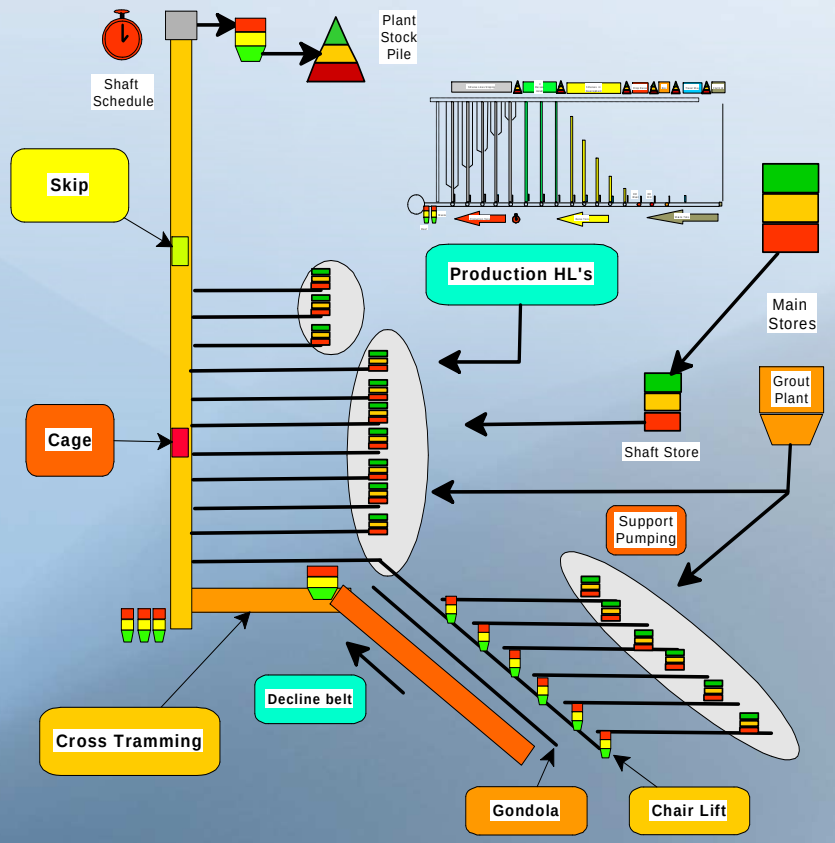


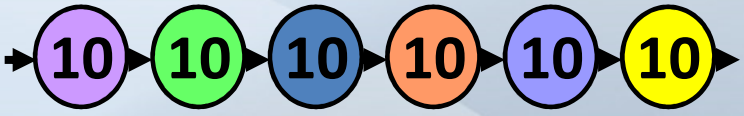
Definition TOC within : Improving Capacity and Scope of making more money and creating an enabling environment

REFRAMING

Local Efficiency & Cost World Frameworks towards a Production Flow Framework

Defining the current Flow Model

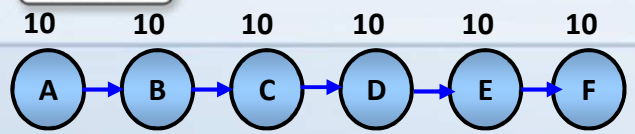


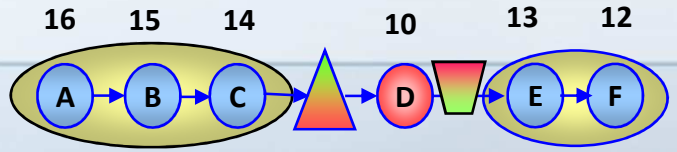


TOC principles non existences

1. No Buffer management system
2. No concept of the War Room
3. Primary and Secondary Chain not designed for TOC

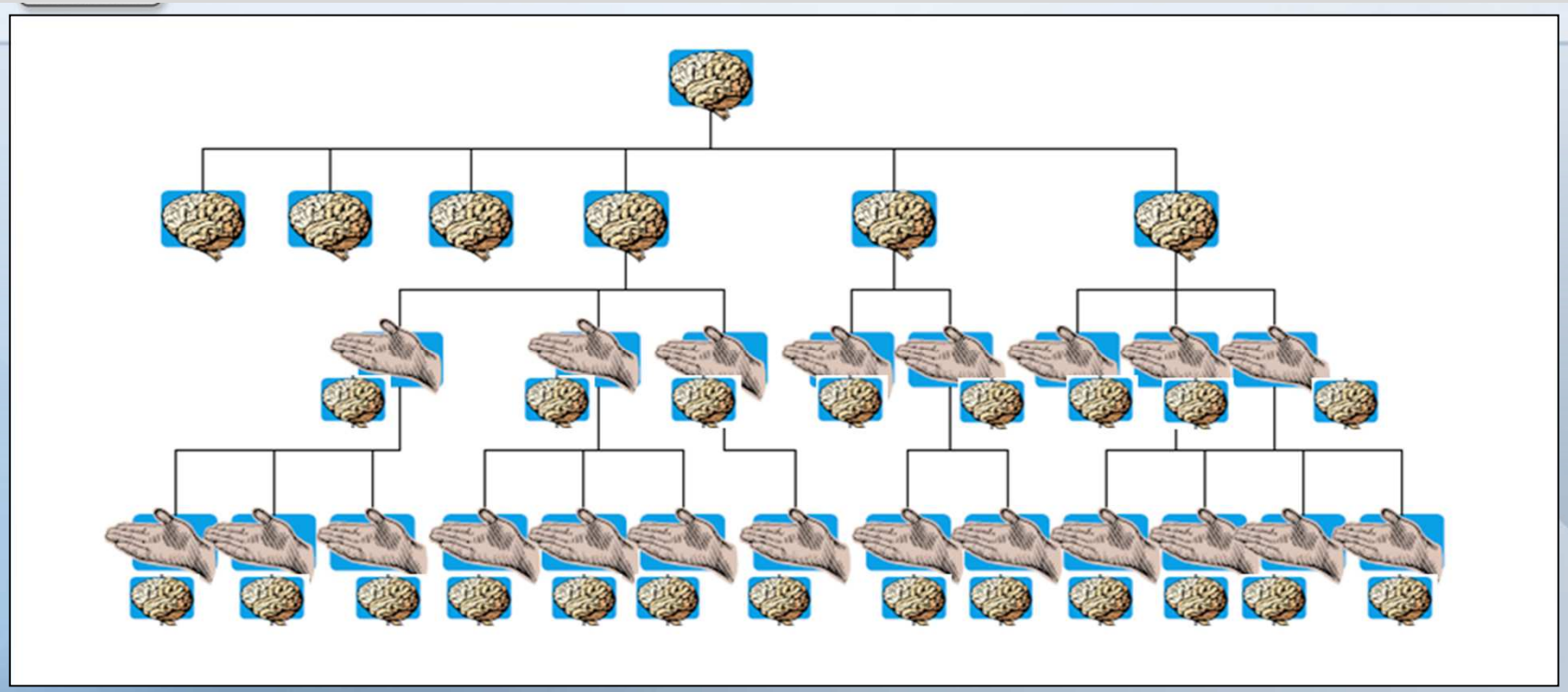
Defining Current Behaviours to be Changed





STOP						START / DO
Manage EFFICIENCY						Manage FLOW
Control Everything						Control Leverage Points
Manage Silo's						Flow of the System as a Whole
Manage by Budget						Manage the Constraint(s)
Individual KPI's						Buffer Management
Cost world (Input control)						Throughput world (Lost revenue)
Management by Numbers						Management by Means (What)
People just work for a salary and must be controlled (Efficiency driven)						People are intelligent and want to perform (Leadership, Care & Growth)
Low morale and spirit						Positive and enthusiastic culture

Defining What needs to be Changed



Defining What needs to be Changed

1. Leadership Structure – TOC enabling environment
2. TOC Flow principles to be entrenched
3. Promotion of Economic Business Competency

Define Lonmin TOC Model –Entry Point

PERFORMING ZONE

Shafts Achieving 80% of the Budgets

NON PERFORMING ZONE

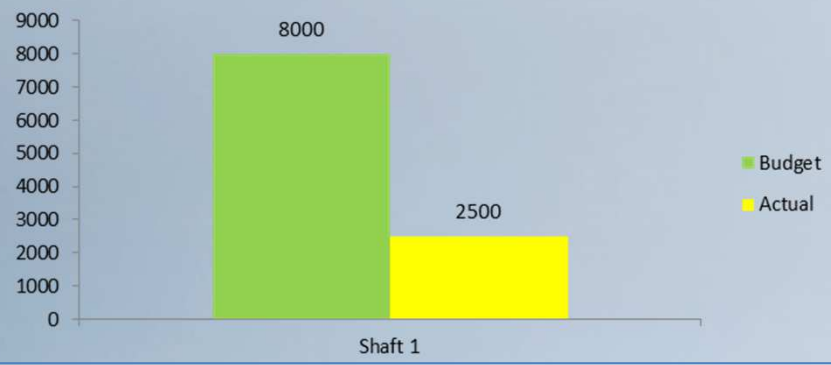
Shafts Achieving 60 % of the Budgets

PERFORMING ZONE

Shafts Achieving 100% and Exceeding the Budgets

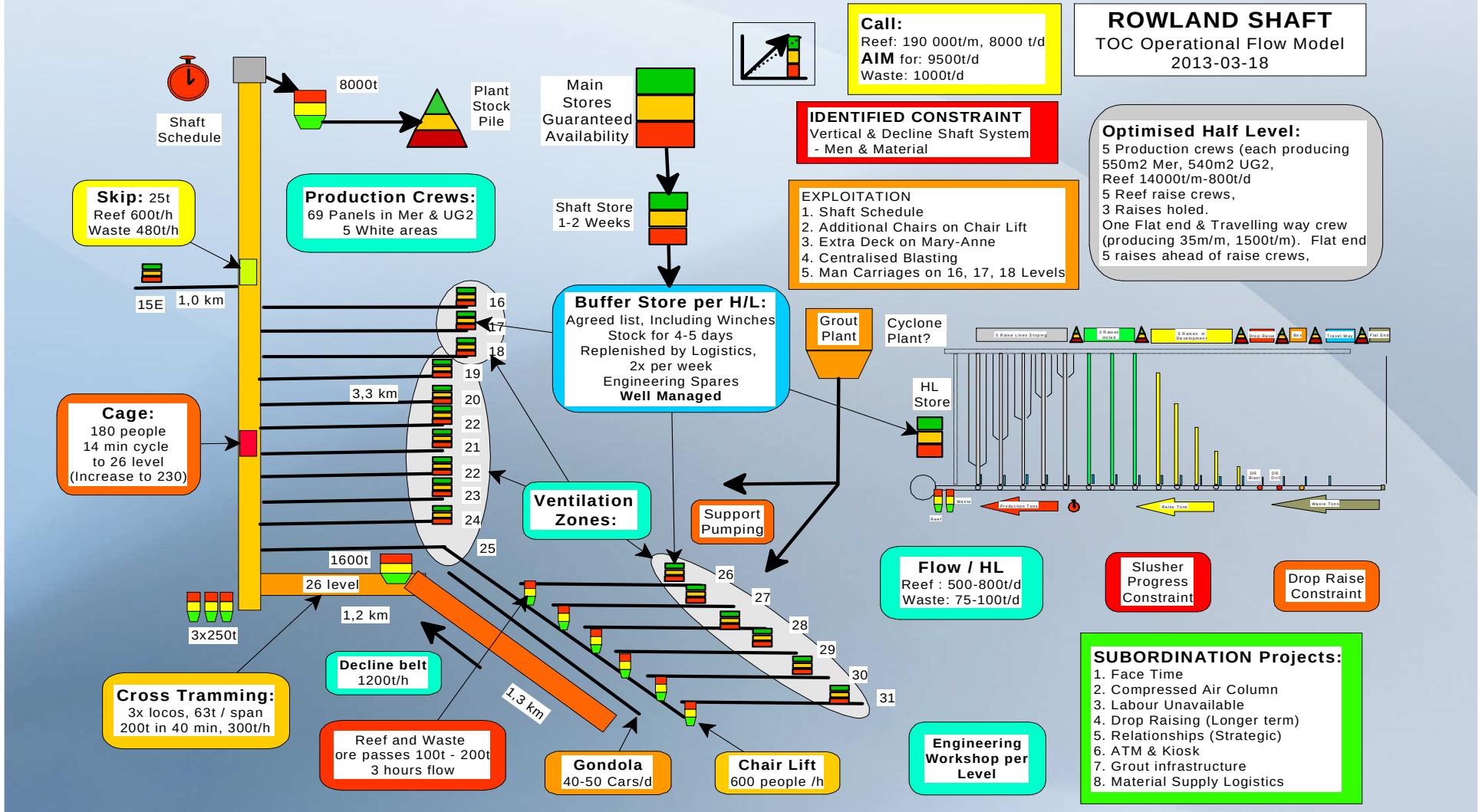
NON PERFORMING ZONE

Shafts Achieving 40% of the Budgets



How the project trial was commissioned

Unpacking the Flow Model and What needs to be Changed –Constraints Identified



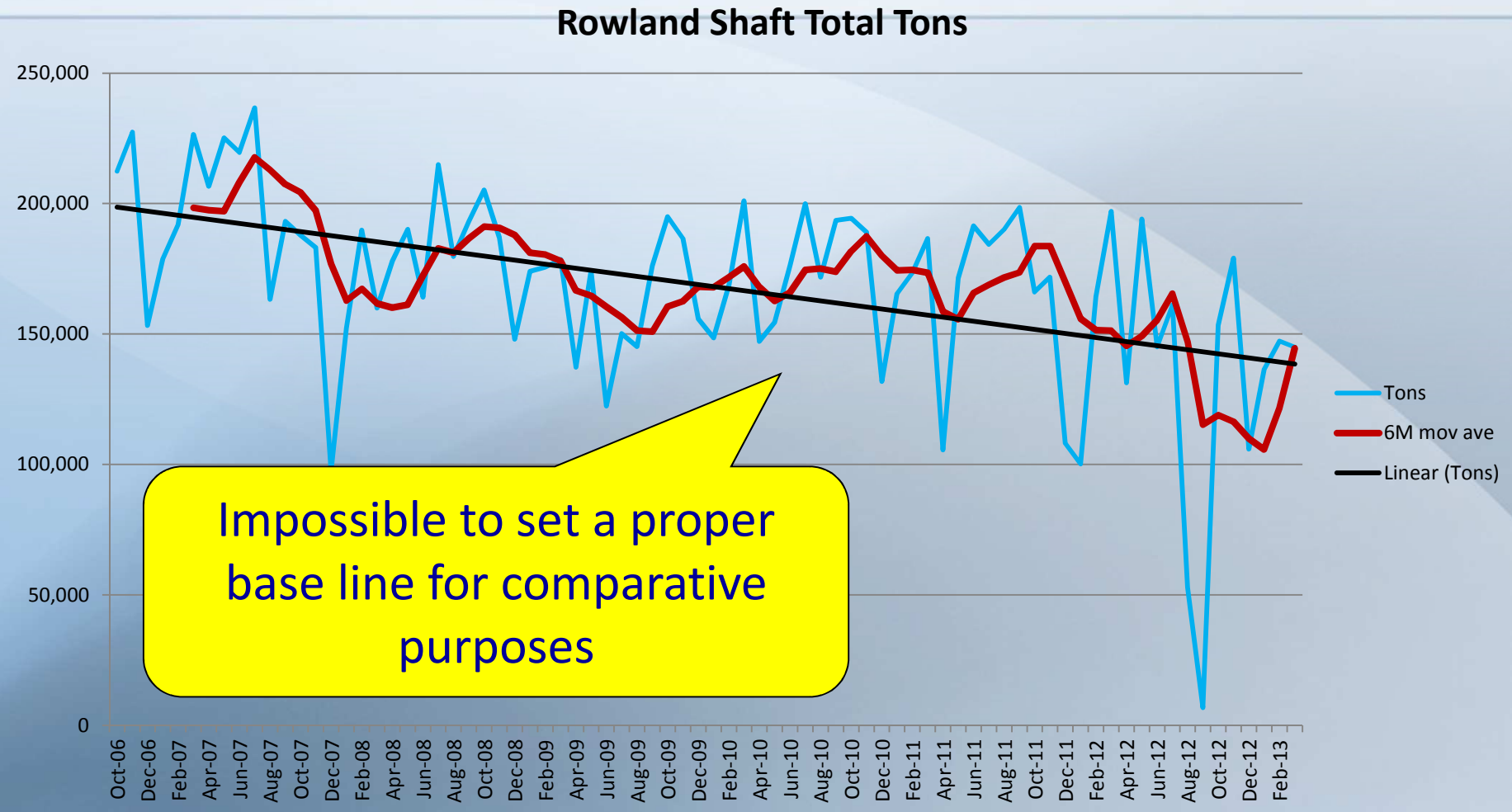
Beginning to find Solutions

1. Overall flow of tons
2. Rate of the identified bottleneck
3. Status of the primary buffers feeding the bottleneck and it's effects on flow stability
4. Status of the protective capacity
5. Visibility of the system's reality & Changes
6. Spirit / Vibe / Dynamics of the shaft
7. Level of understanding of the TOC concepts

Defining the Problem at hand-The Real Constraits

- Have we identified THE REAL constraints?
  - Physical constraints are easy to ID & manage
  - People behaviour constraints more challenging (system generated frustration?)
  - Morale / Spirit improving; union, bonus, material, leadership
- The proper functioning of the daily Ops Room improved significantly. The reflection meetings have started; the purpose of which is to analyse the information built up in the Ops Room.

Showing the Impact of the current thinking Model



Impossible to set a proper base line for comparative purposes

Focus Areas of Change

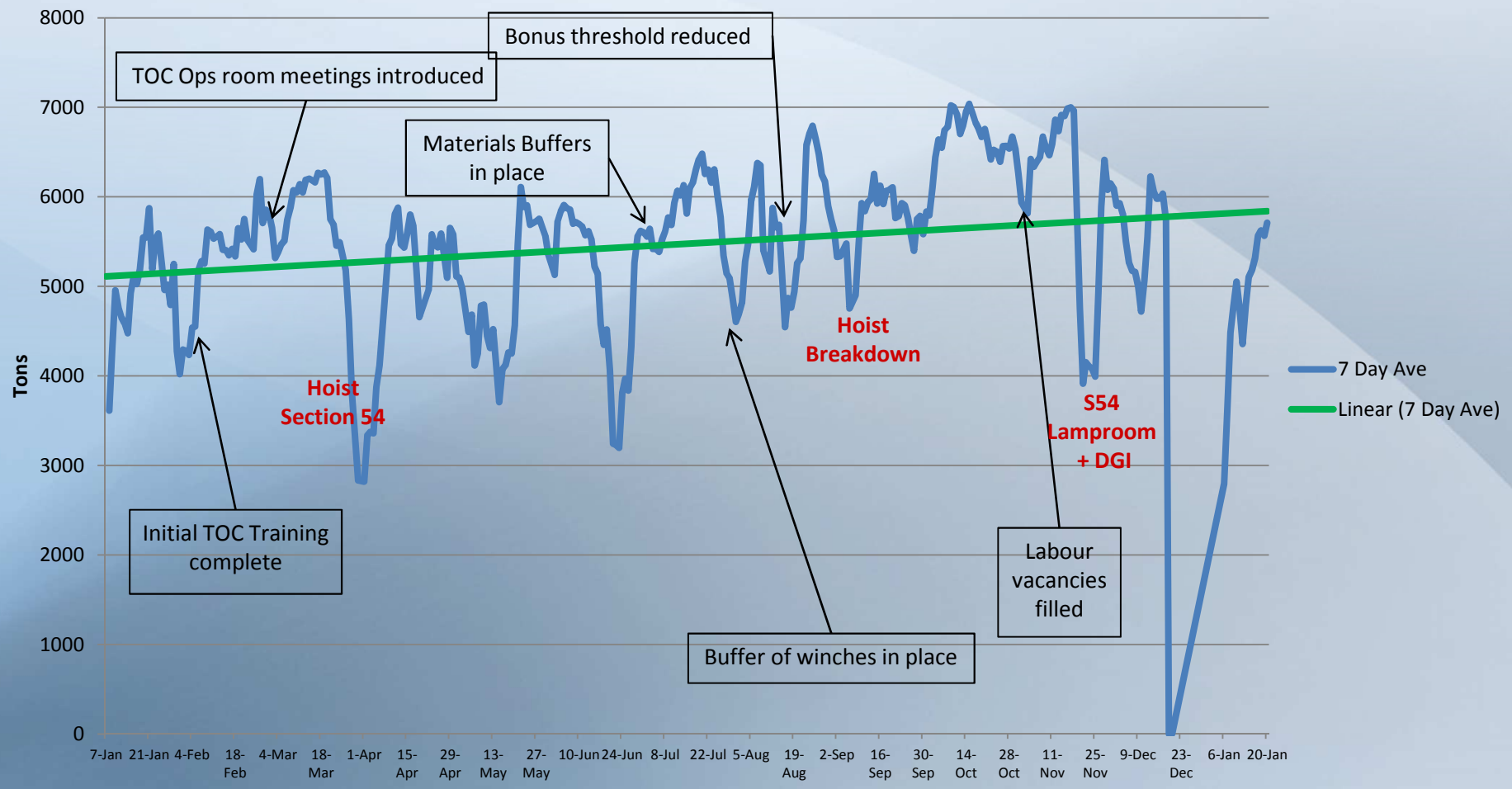
4 Focus Areas of the Topic

- Authentic Leadership journey
- TOC approach to Change
- Profit and Sustainable behaviors
- W –Effect Analysis

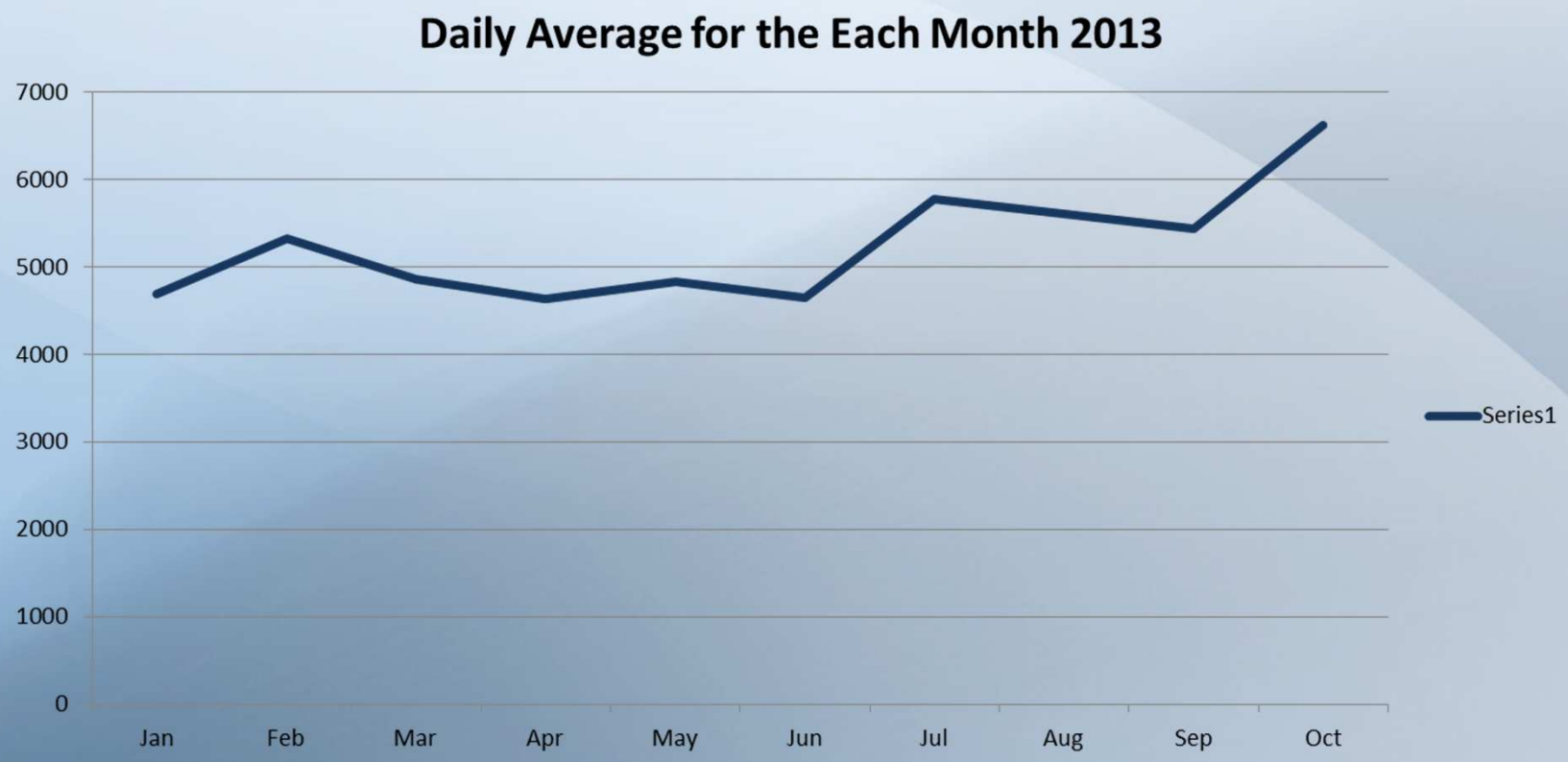
What was implemented to achieve the Change

1. OPS Room – To Change from Black box mind-set to Proactive Approach
2. Project Commissioned to implement the buffer Management systems –Store underground
3. Leadership Coaching –One on One Coaching
4. Reflection meetings – To reflect and begin to identify the invisible

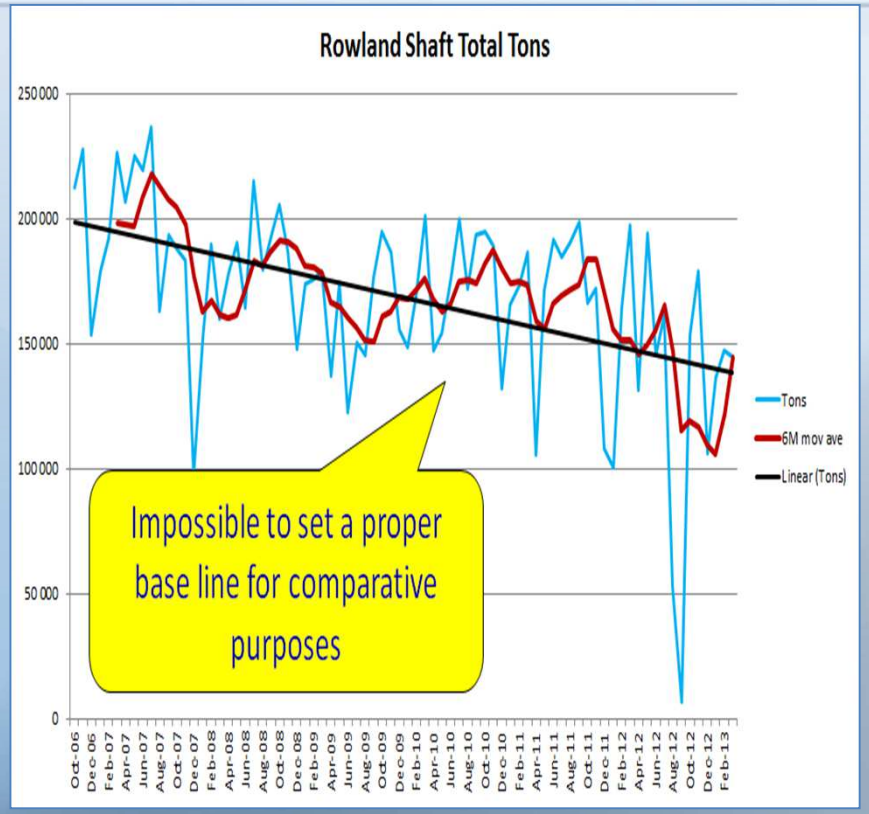
TOC Results

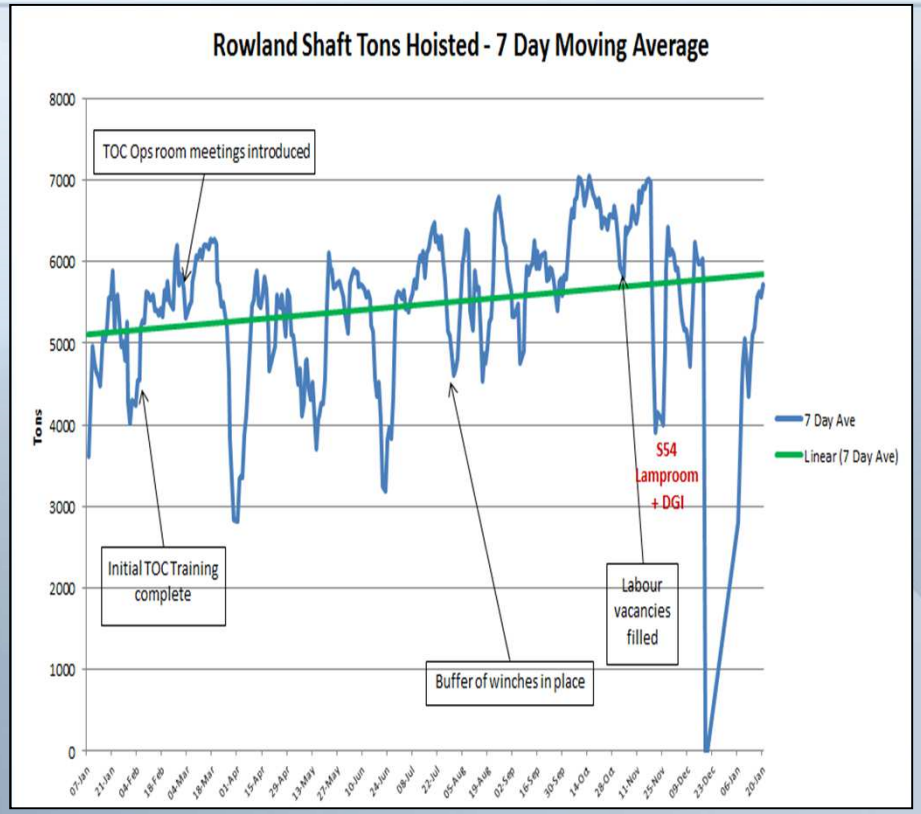

Rowland Shaft Tons Hoisted - 7 Day Moving Average
Tons
8000
7000
6000
5000
4000
3000
2000
1000
0
7-Jan
21-Jan
4-Feb
18-Feb
4-Mar
18-Mar
1-Apr
15-Apr
29-Apr
13-May
27-May
10-Jun
24-Jun
8-Jul
22-Jul
5-Aug
19-Aug
2-Sep
16-Sep
30-Sep
14-Oct
28-Oct
11-Nov
25-Nov
9-Dec
23-Dec
6-Jan
20-Jan
TOC Ops room meetings introduced
Bonus threshold reduced
Materials Buffers in place
Initial TOC Training complete
Hoist Section 54
Hoist Breakdown
S54 Lamproom + DGI
Labour vacancies filled
Buffer of winches in place
7 Day Ave
Linear (7 Day Ave)

TOC the Clear Results ROI



The Results- Comparison





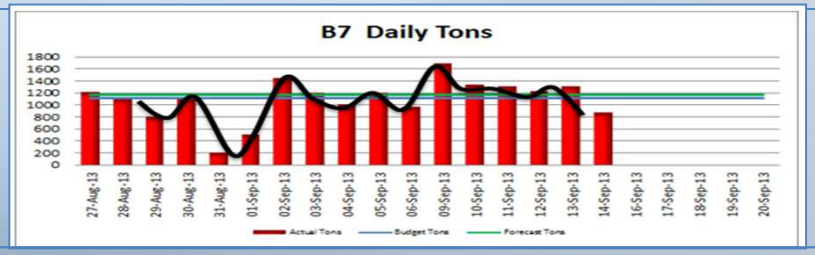
The Results- Comparison

1. Low Variability
2. Upward trend
3. Movement from Non performance to performance
4. A profit Game

How we monitor sustainable results
Business Units Monitoring –W effect Analysis Template

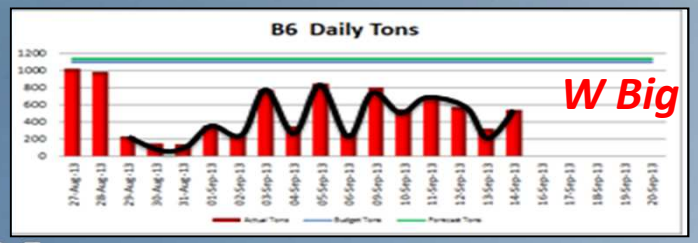
W Effect Analysis is an indication of performance and variability

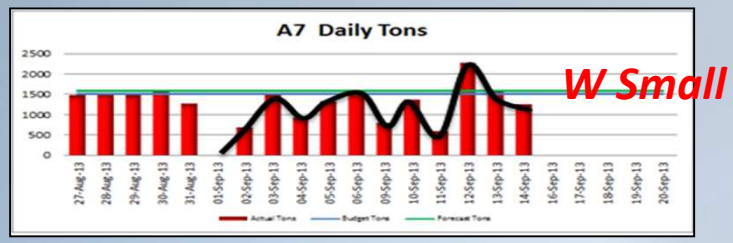
W Effect type 1 = Performance (It means exceeding target and being profitable) example Below)
Performance is paying off the buffer



W Effect Analysis is an indication of performance and variability

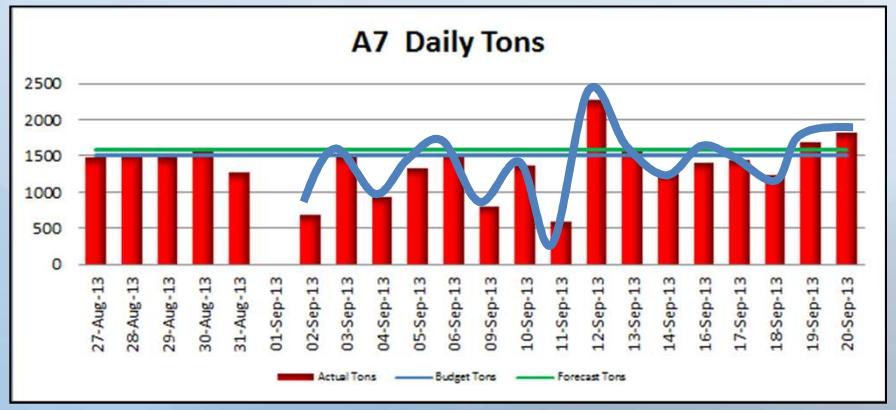
W Effect type 2 = Non Performance (It means not consistent and not stable) example Below)
Performance is not paying off the buffer great concerns





TOC Dashboard -Example Template

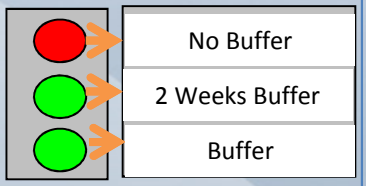
September W effect



Buffer Management System

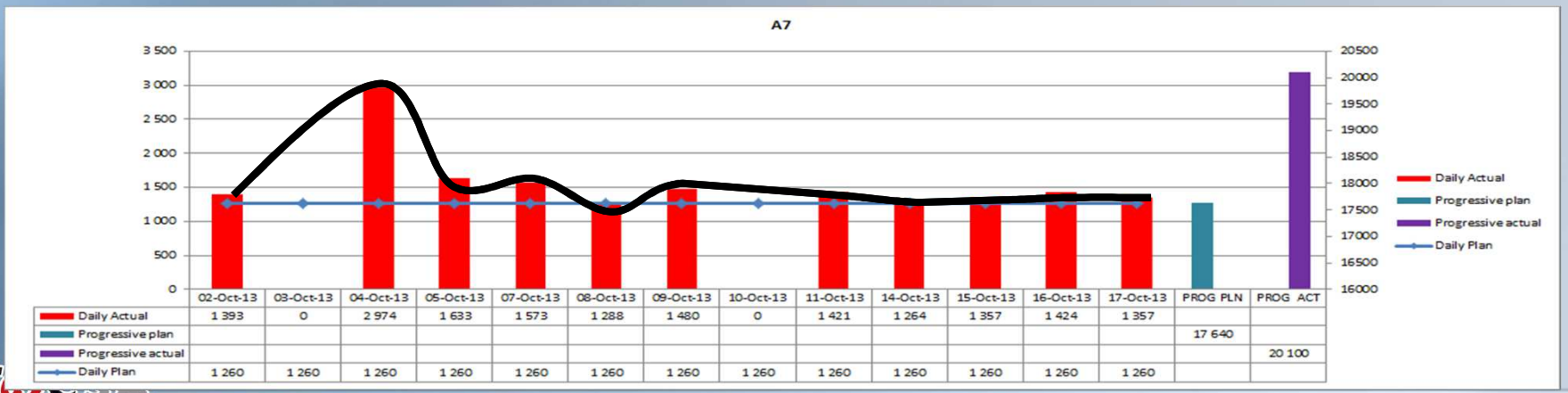
Buffer Management System

1. Engineering Buffer
2. Material Buffer
3. People Buffer



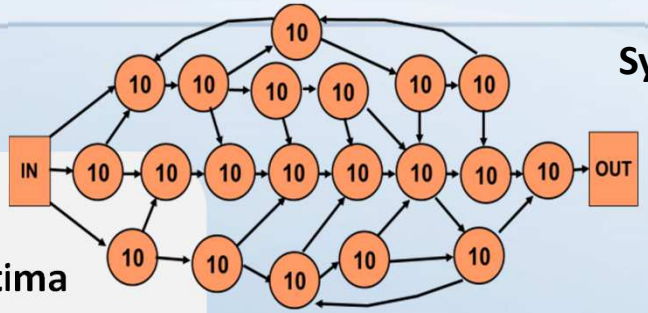
Performance against TOC (5 to 10) % above Plan

W – Effect Analysis October

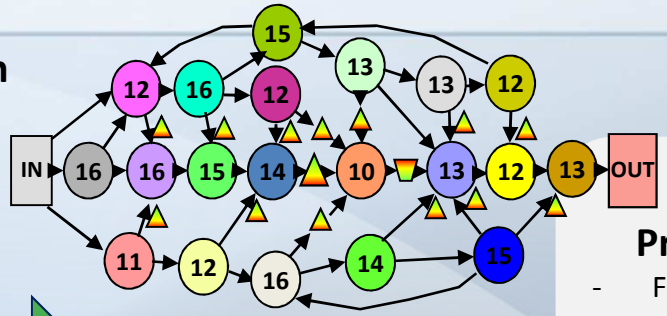


	02-Oct-13	03-Oct-13	04-Oct-13	05-Oct-13	07-Oct-13	08-Oct-13	09-Oct-13	10-Oct-13	11-Oct-13	14-Oct-13	15-Oct-13	16-Oct-13	17-Oct-13	PROG PLN	PROG ACT
Daily Actual	1 393	0	2 974	1 633	1 573	1 288	1 480	0	1 421	1 264	1 357	1 424	1 357		
Progressive plan														17 640	
Progressive actual															20 100
Daily Plan	1 260	1 260	1 260	1 260	1 260	1 260	1 260	1 260	1 260	1 260	1 260	1 260	1 260		

Strategic Intent with TOC Initiative



System

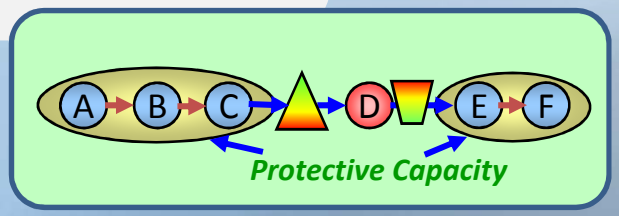


World of Local Optima

- Efficiency
- Statistics & Formulas
- Simple rules
- Physical

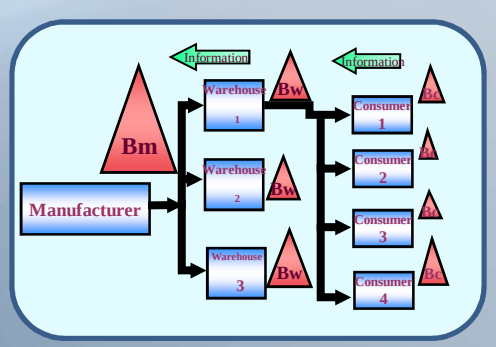
World of Production Flow

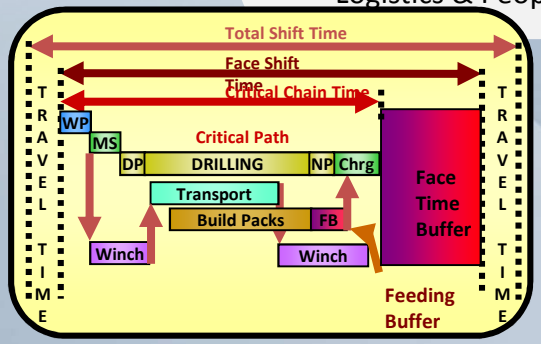
- Flow
- Bottlenecks & Buffers
- Interdependence
- Logistics & People



People, Materials, and Equipment

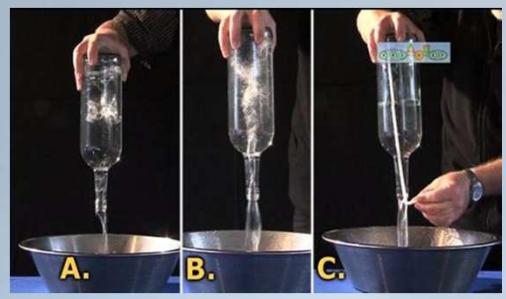
Planning & Manning





OPS ROOM (Daily management system)

- Focus on Immediate Future
- Good Visibility
- Pro-active / Creative
- Behaviour / Culture



3 Bottles

The TOC is a Sustainable approach – Moving Forward
The Conclusion