

## **Case Study - Tire Manufacturing Industry**



## Client's Challenge

- Inconsistent output on TBM machines
- Resource optimization
- Low Productivity due to fatigue
- Identification and reduction of losses

## **PMI's Approach**

Identification of Project scope

Data collection & Video Shooting of various Processes

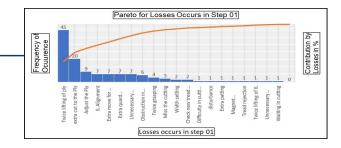
> Elemental detail preparation using PMTS technique (MODAPTS®)

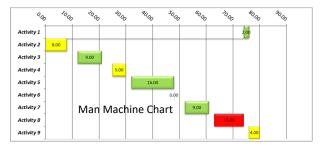
> > **Production Study for losses** capturing

> > > Analysis of the data collected to identify major focus areas

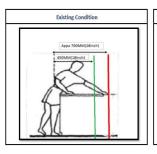
## **K**ey Points

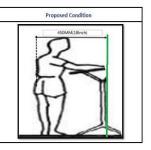
- Module for Rotation of Resources (ROR) is delivered to the client
- Potential solution for fatigue elimination
- Focus areas identified to reduced losses





PMI Schematic Layout for the Fatigue Analysis





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- Introduce periodic rotation within shift timing with other department
- Variation in cycle time and or impact of fatigue can be taken care by off by introduction of fatigue
- Fatigue reduction and productivity improvement from ROR module

Туге Туре	Estimated time	Avg. time with variation - inclusion of all losses	% Variation	Avg. time with variation - excluding non cyclic activity	% Variation
Product 1	64.30	72.5	12.75%	69.8	8.55%
Product 2	72.30	81.3	12.45%	78.4	8.44%
Product 3	75.20	85	13.03%	81.2	7.98%

ROTATION OF RESOURCES MODULE					
No of Machines in working	3	Online	•	Partial Relieving	•
Manpower for 3 Machines	4	Relieving	0		

Time Slot		Manpower			
		Α	В	С	D
07:00	08:30	•	•	•	0
08:30	10:00	•	•	0	•
10:00	10:30	•	•	•	•
10:30	11:00	Lunch	•	•	•
11:00	11:30	•	Lunch	•	•
11:30	12:00	•	•	•	Lunch
12:00	12:30	•	•	Lunch	•
12:30	13:30	•	•	•	•
13:30	15:00	0	•	•	•

\*Data shown here has been modified to protect client confidentiality





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