

Annexure (A): Status of Cluster at a Glance

Name of SPV/DPG	: IamSME of India, Faridabad
Name of Cluster	: Faridabad Engineering Cluster No.2 (FEC- 2)
Name of LMC	: LBE Consulting Group, New Delhi
Brief Description	:

Faridabad Engineering Cluster No.2 (FEC- 2) comprises of following 6 clusters units:

1. Creative Electronix
2. Dahra Engineering Co.
3. Falcon Vacuum Pumps & Systems
- 4. Hind Hydraulics & Engineers- Model unit**
- 5. Sanatan Autoplast Pvt. Ltd- Model Unit**
6. Supreme Plastic Industries

The customers of the most of the all the cluster unit is totally different from each other like E-Rickshaws manufactures, milk industries, Defense, Printing Industries, automobiles parts manufactures, white goods & fan manufactures of each level like OEM, Tier-I & Tier-II.

Technologies & machines used by the cluster units are conventional machines like milling, lathe, Plastic moulding machines, Hydraulic & mechanical machines etc.

Products manufactured by the cluster units are SPM (Special purpose machines) for various purposes, Vacuum Pumps, Electric Rickshaw Motor, Electric Rickshaw controller, conventional electrical motors, Fan Parts, Testing instruments for various purposes & automobile plastic moulded parts.

Out of the 6 cluster units, 2 units namely Hind Hydraulics & Engineers and Sanatan Autoplast Pvt. Ltd. Benefitted the most amongst the cluster units & developed themselves as the Role Model cluster unit for the Lean Manufacturing Practices.

Success Story with Photographs:

- Quantum of benefits (monetary and non-monetary) accrued so far

S.No.	Project details (in brief)	Status at start of Project	Current Status	Benefits Accrued (whichever applicable)			Remarks (If Any)
				Monetary	Qualitative	Quantitative	
1	5S	16% As per NPC audit sheet, i.e. No 1S/2S/3S activity in place, no 5S Red Tag Area, 5S zones does not exits	70% i.e. 1S/2S/3S carried out in massive way. Red Tag Area created, 5S Zones identified & display, 5S Score RADAR charts display,	Area Generated: 6150 Sq. Ft. Scrap Sold & Red Tags items by 5S Activity: 23,400 Kgs. In Rupees: 18,30,016/-	Improved Shop Floor Area, Cleaner work environment. Reduced retrieval time of items.	N/A	
2	Health, Environment & Safety (HES)	Level-2, i.e. No/ Less awareness of safety, no/less use of PPEs	Level-8, i.e. Near Miss identified & Rectified, Use of PPEs started, no unsafe conditions, Safety cross Implementation	N/A	Reduced number of accidents & safe environment	N/A	
3	Work Place Cooperation (WPC)	Level-2, i.e. Informal communication, No meetings in place, low morale	Level-8, i.e. Daily/ Weekly review meetings started, attendance awards, skill matrix & suggestion schemes launched	Savings by implemented suggestions & reduced man-hours: Rs. 12,42,000/-	Improved Moral & Motivation and employees involvement	Reduced absenteeism by 10 %	1 Unit stops running second shift & over time & same output in single shift
4	Visual Management (VM)	Level-2, i.e. At Some Places Identification exits	Level-8, i.e. Identification done, Kaizen Board, At A Glance Board, PQCD SME Board, 5S Boards & Visual Boards Displayed, Gangways Marked.	N/A	Visually improved shop floor, Speaking factory.	N/A	

S.No.	Project details (in brief)	Status at start of Project	Current Status	Benefits Accrued (whichever applicable)			Remarks (If Any)
				Monetary	Qualitative	Quantitative	
5	Productivity Improvement	0 % Base Line	20 %~30% Improvement in Top 5 Products Labour Productivity	Rs. 4,39, 000/-	Reduced Labour Cost for the product	20 %~30 %	
6	Quality Improvement	0 % Base Line	20 %~30% Reduction in Top 5 Defects	Rs. 3,51,932/-	.Reduced Customer Complaints , Improved FTR & CSI	20 % ~ 30%	
7.	Energy Conservation	0 % Base Line	5 % Reduction in Energy Cost	Rs. 6,39,705/-	Reduced Energy Cost	5 %	Like PF Panel Installation, LEDs & Natural Lighting
8.	TPM (Total Productive Maintenance)	Level-0	Level-6, Model machine Selection, Fugoi Concept & Implementation of activities, Visual CLITO Implementation & Declared ownerships for all machines	Under Observations	Reduced Breakdowns & More Availability of machines for production	N/A	
TOTAL				Rs. 45,02,653/-			

Photographs of the some of the improvements has been shown below:

KAIZEN (Continual Improvement)

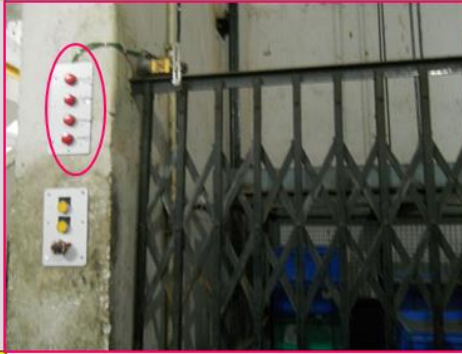
LOCATION- SHOP FLOOR

DATE- 22.02.2015

Before (Original)

After (improvement)

Problem contents	No indication if door open of the material lift at any floor
Photo / Sketch	
Bad Effect	Not good for safety of lift operator

c / m contents	Indicator provided for information if door is open at particular floor
Photo / Sketch	
Effectiveness	Safety of the lift operator


Kaizen Category:


5S	Safety	Quality	Cost	Productivity	Poka-Yoke	3R
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Location	Shop Floor	Kaizen (Continual Improvements)	Date
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Before (Original)

After (improvement)

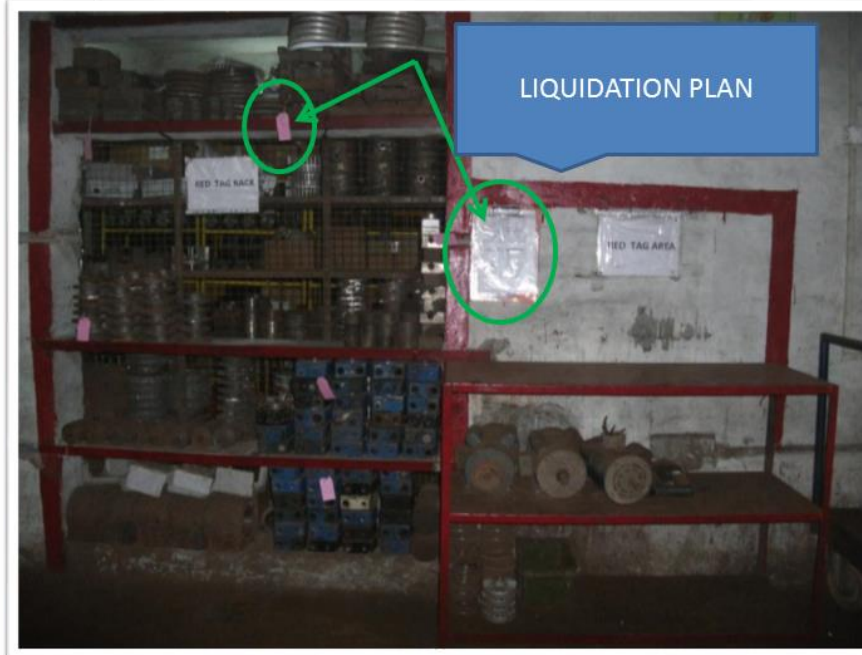
Problem contents	Fan cover placed on top of racks
Photo / Sketch	
Bad effect	5S not maintained & no segregation, can fall down.

c / m contents	Rack designed for the fan covers and placed on it
Photo / Sketch	
effectiveness	5S maintained, segregation done, can not fell down.

5S	Safety	Quality	Cost	Mistake proof	3R	Productivity
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-- Implementation category

5S Red Tag Area



Before starting the 5S activity in the plant we created a 5S Red Tag Area in which we moved all the unwanted material from different zones and tagged them.

5S Poster Competition





SHOP FLOOR DISPLAY



BEST 5S ZONE TROPHY

*Started distributing
the Best 5S zone
trophy in the
company*



Location		REPAIR SHOP		Kaizen (Continual Improvements)		Date	
						10.7.15	
Before (Original)				After (improvement)			
Problem contents	DRINKING WATER IN "MATKA"			c/m contents	DRINKING WATER IN WATER COOLER		
Photo / Sketch				Photo / Sketch			
Bad effect	CAN BE HARMFUL TO HEALTH BY DUST & DIRT			effectiveness	NO HARMFUL TO HEALTH		
5S	Safety	Quality	Cost	Mistake proof	3R	Productivity	
-- Implementation category							

Personal Protective Equipments



5S BOARD



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5S IN FINISH GOOD STORE



FG STOCK STATUS

Item Code	Item Name	Unit	Qty	Location	Item Code	Item Name	Unit	Qty	Location
10001	10001-001	10001	10001	10001	10001	10001-001	10001	10001	10001
10002	10002-001	10002	10002	10002	10002	10002-001	10002	10002	10002
10003	10003-001	10003	10003	10003	10003	10003-001	10003	10003	10003
10004	10004-001	10004	10004	10004	10004	10004-001	10004	10004	10004
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KAIZEN (Continual Improvement)


LOCATION- PDI OFFICE

DATE- 25.01.2015

Before (Original)

After (improvement)

Problem contents	PDI table not properly managed
Photo / Sketch	
Bad Effect	Misuse of space on the table

C / m contents	PDI table managed properly
Photo / Sketch	
Effectiveness	1- Table used properly 2- 5S improved

Kaizen Category:

5S	Safety	Quality	Cost	Productivity	Poka-Yoke	3R
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KAIZEN (Continual Improvement)


LOCATION- QA OFFICE

DATE- 15.02.2015

Before (Original)

After (improvement)

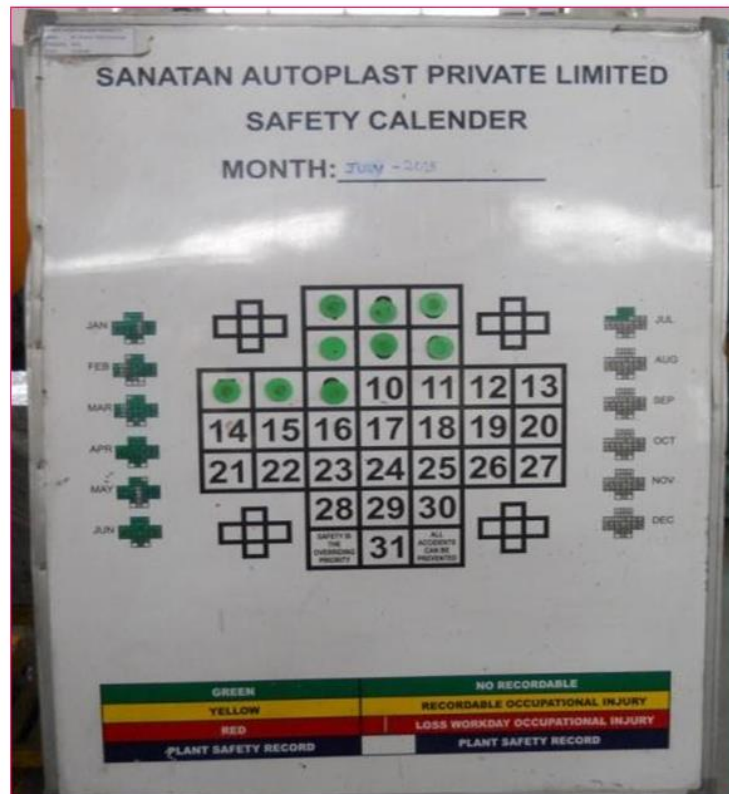
Problem contents	File rack not properly managed
Photo / Sketch	
Bad Effect	More retrieval time of files

C / m contents	File rack managed, identified and "Z" marking done
Photo / Sketch	
Effectiveness	1- Retrieval time reduced 2- 5S improved



Kaizen Category:

5S	Safety	Quality	Cost	Productivity	Poka-Yoke	3R
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SAFETY CALENDAR



16

Location		Paint Area		Kaizen (Continual Improvements)		Date															
						06/01/2015															
Before (Original)				After (improvement)																	
Problem contents	Paint drums laying on floor.			c/m contents	Paint drum placed on racks clear																
Photo / Sketch				Photo / Sketch																	
Bad effect	Area look untidy			effectiveness	3 s maintain																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">5S</td> <td style="width: 10%; background-color: green;"></td> <td style="width: 10%;">Safety</td> <td style="width: 10%;"></td> <td style="width: 10%;">Quality</td> <td style="width: 10%;"></td> <td style="width: 10%;">Cost</td> <td style="width: 10%;"></td> <td style="width: 10%;">Mistake proof</td> <td style="width: 10%;"></td> <td style="width: 10%;">3R</td> <td style="width: 10%;"></td> <td style="width: 10%;">Productivity</td> <td style="width: 10%;"></td> </tr> </table>								5S		Safety		Quality		Cost		Mistake proof		3R		Productivity	
5S		Safety		Quality		Cost		Mistake proof		3R		Productivity									
<div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: black; margin-right: 5px;"></div> Implementation category </div>																					



Kaizen (Continual Improvements)

Date

17.2.2015

Before (Original)

After (improvement)

Problem contents	Loose wires near the sub meter	C/M contents	All wires removed and bus bar box placed
Photo / Sketch		Photo / Sketch	
Bad effect	Can cause short circuit	Effectiveness	Effective wiring hence less chance of short circuit

5S

Safety

Quality

Cost

Mistake proof

3R

Productivity

18

-- Implementation category



KAIZEN

LOCATION- All Machines

DATE- Sep. 2015

Before (Original)

After (improvement)

Problem contents	Foreign material may be mix-up, may result in short moulding	C / m contents	Raw material in the drum and rubber provided on the gap
Photo / Sketch		Photo / Sketch	
Bad Effect	a) Raw material in the bag on the machine b) More possibility to mix-up the foreign material, hence quality may effect	Effectiveness	a) Raw material in the drum and rubber also provided to fill the gap b) No possibility to mix-up the foreign material

Kaizen Category:

5S

Safety

Quality

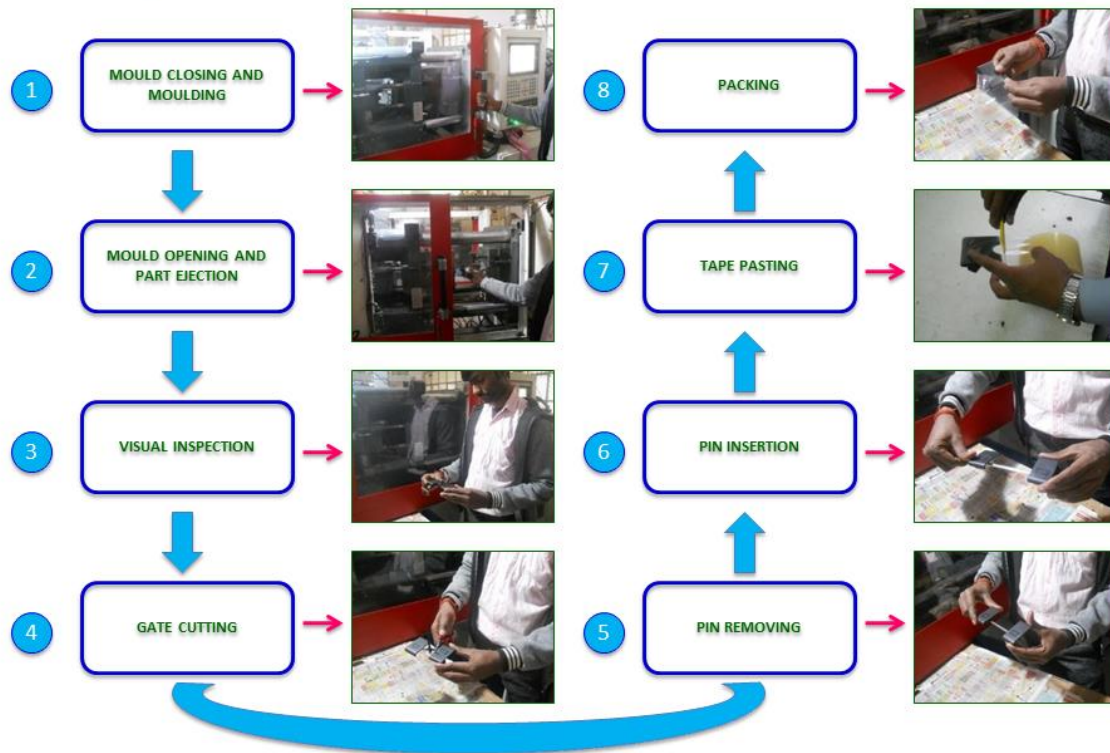
Cost

Productivity

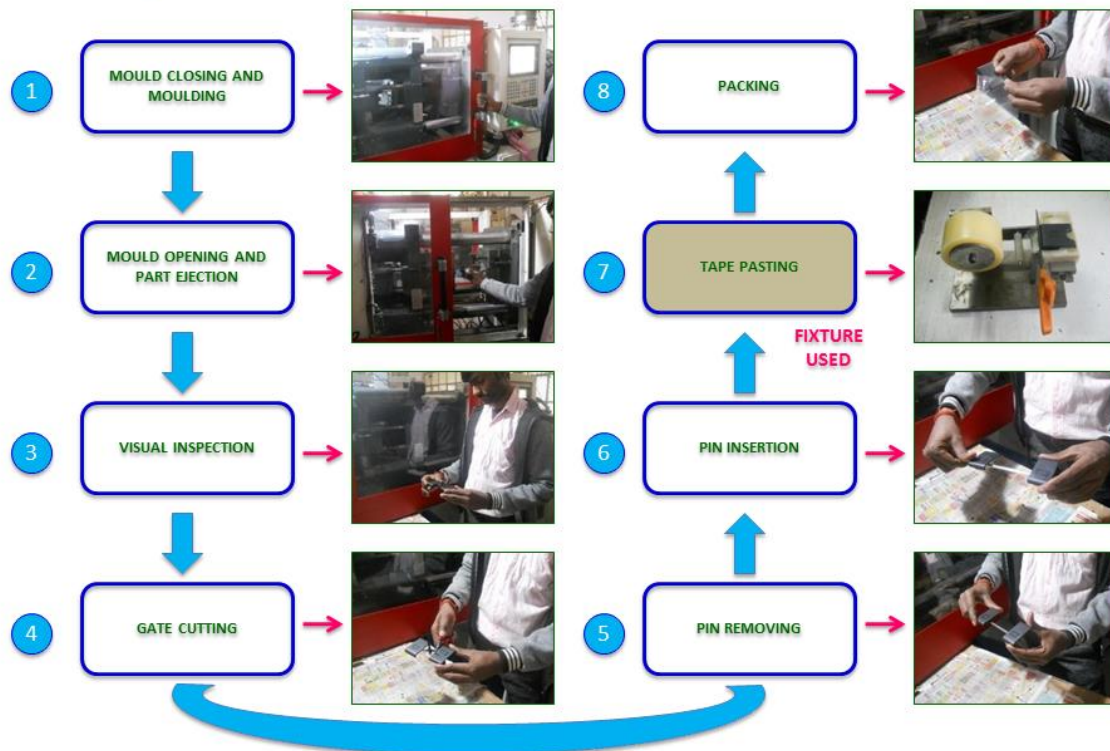
Poka-Yoke

3R

INJECTION MOULDING PROCESS (BEFORE)



INJECTION MOULDING PROCESS (AFTER)



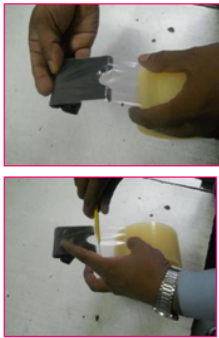
KAIZEN

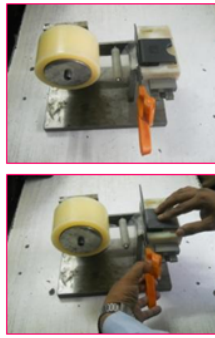
LOCATION- Machine No.- 43

DATE- Sep. 2015

Before (Original)

After (improvement)

Problem contents	Manual Tape pasting on the levers
Photo / Sketch	
Bad Effect	a) Tape pasting done manually by the operator during moulding process b) More time consume in this process – 30 se. So cycle time increased – 66 sec.

C / m contents	Tape pasting by the fixture
Photo / Sketch	
Effectiveness	a) Fixture made for Tape pasting on the lever during moulding process a) Time reduced up to 16 sec. of this process . So cycle time reduced – 52 sec

Kaizen Category:

5S

Safety

Quality

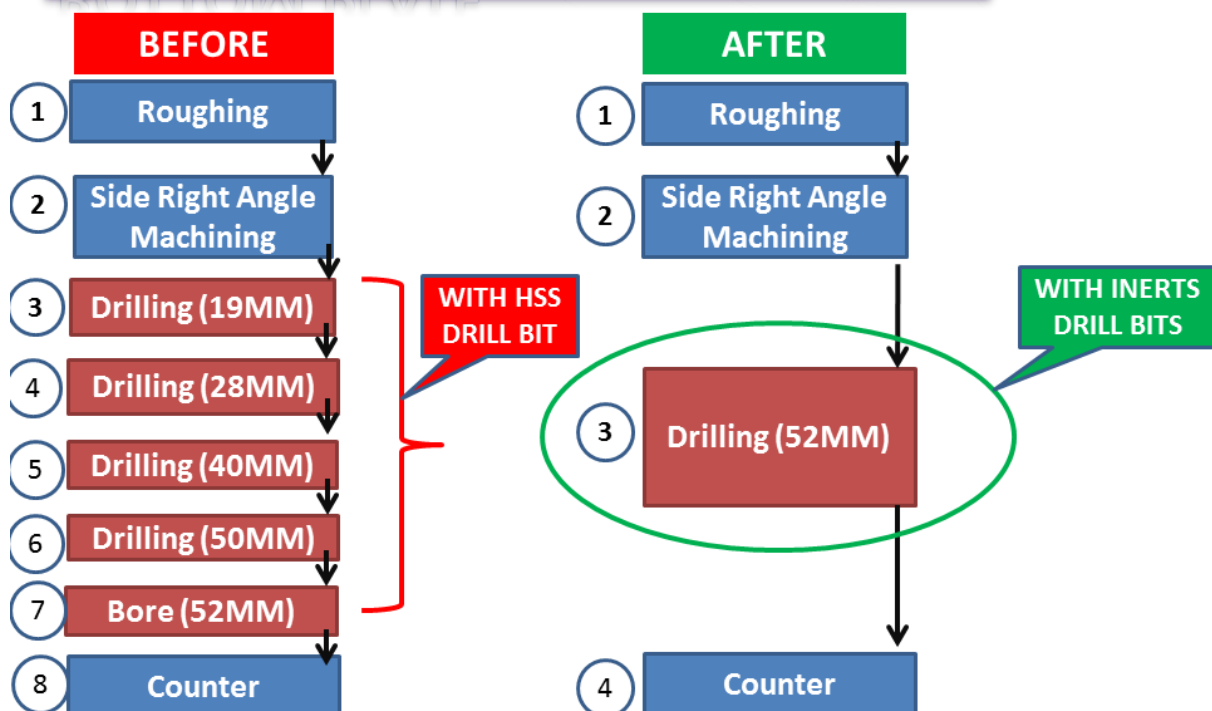
Cost

Productivity

Poka-Yoke

3R

DRILLING (52MM) - TOP & BOTTOM PLATE



DRILLING (52MM) - TOP & BOTTOM PLATE

DESCRIPTION	BEFORE	AFTER
TYPE OF TOOL	HSS DRILL	ISERT DRILL
DRILLING OPERATIONS	6	1
CYCLE TIME (1 Nos.)	2HRS= 7200 SEC.	50 SEC.
CYCLE TIME (40 NOS.)- 20 NOS. IN EACH PLATE	288,000 SEC.	2000 SEC.
IMPROVEMENT IN SECONDS	28600 SEC	
% IMPROVEMENT	14300 %	



TPM MODEL MACHINE HORIZONTAL MILLING (HM-01)

BEFORE



AFTER





LIST OF MACHINES WITH OWNERSHIP

MACHINE NAME/NO.	OWNERSHIP	PHOTO	MACHINE NAME/NO.	OWNERSHIP	PHOTO
CNC	ROSHAN KUMAR		VERTICAL MILLING (VM-01)	NANDAN PARSHAD	
VMC	ROSHAN KUMAR		SURFACE GRINDER (SG-01)	ROHIT	
HORIZONTAL MILLING (HM-01)	SUBEDA		SURFACE GRINDER (SG-02)	NANDAN PARSHAD	
HORIZONTAL MILLING (HM-02)	SUBEDA		CYLINDRICAL GRINDER (CG-01)	LAL BABU	



DAILY MACHINE VISUAL CHECK SHEET

Way Forward :

Currently the cluster is in Phase-5 of lean scheme & activities related to the Phase-5 has been started in the cluster units. Although the Phase-5 topics has been chosen by the cluster units but the project topics for the phase-5 in most of the units are PPC, Stores management and Advanced SOP as these things are required for all companies for the sustenance.

Final Phase will be the very beneficiary for all the cluster units as it will give the sustenance to all activities of the Lean Manufacturing & it will be challenging to implement the PPC & Stores management in SMEs units.

Problems if any :

No