

**INSTITUTE  
of QUALITY**



Confederation of Indian Industry



# **TPM NEWSLETTER**

## **VOLUME 2**

[www.tpmclubindia.org](http://www.tpmclubindia.org)



Confederation of Indian Industry

Japan Institute of Plant Maintenance, the TPM Excellence Award rigorously evaluates a company-wide commitment to sustain superlative production capabilities and world-class quality standards. The award has been instrumental in strengthening the improvement of enterprises and contributing to the development of industry by promoting the modernization of plant maintenance and the development of plant maintenance technologies.

We are pleased to share the JIPM TPM Award winners (for the year 2023) journey and achievements captured in brief.

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### **TPM Awards 2023 Winners List supported by CII TPM Club India**

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#### **Special Award for TPM Achievement**

🏆 Lumax Auto Technologies Limited (Pantnagar Plant)

#### **Award for Excellence in Consistent TPM Commitment**

🏆 Lumax Auto Technologies Ltd. Chakan India

🏆 Lumax Industries Limited Bengaluru Bidadi Plant India

#### **Award for TPM Excellence, Category A**

🏆 Automotive Axles Limited Hootagalli Industrial Area, Off Hunsur Road, Mysuru

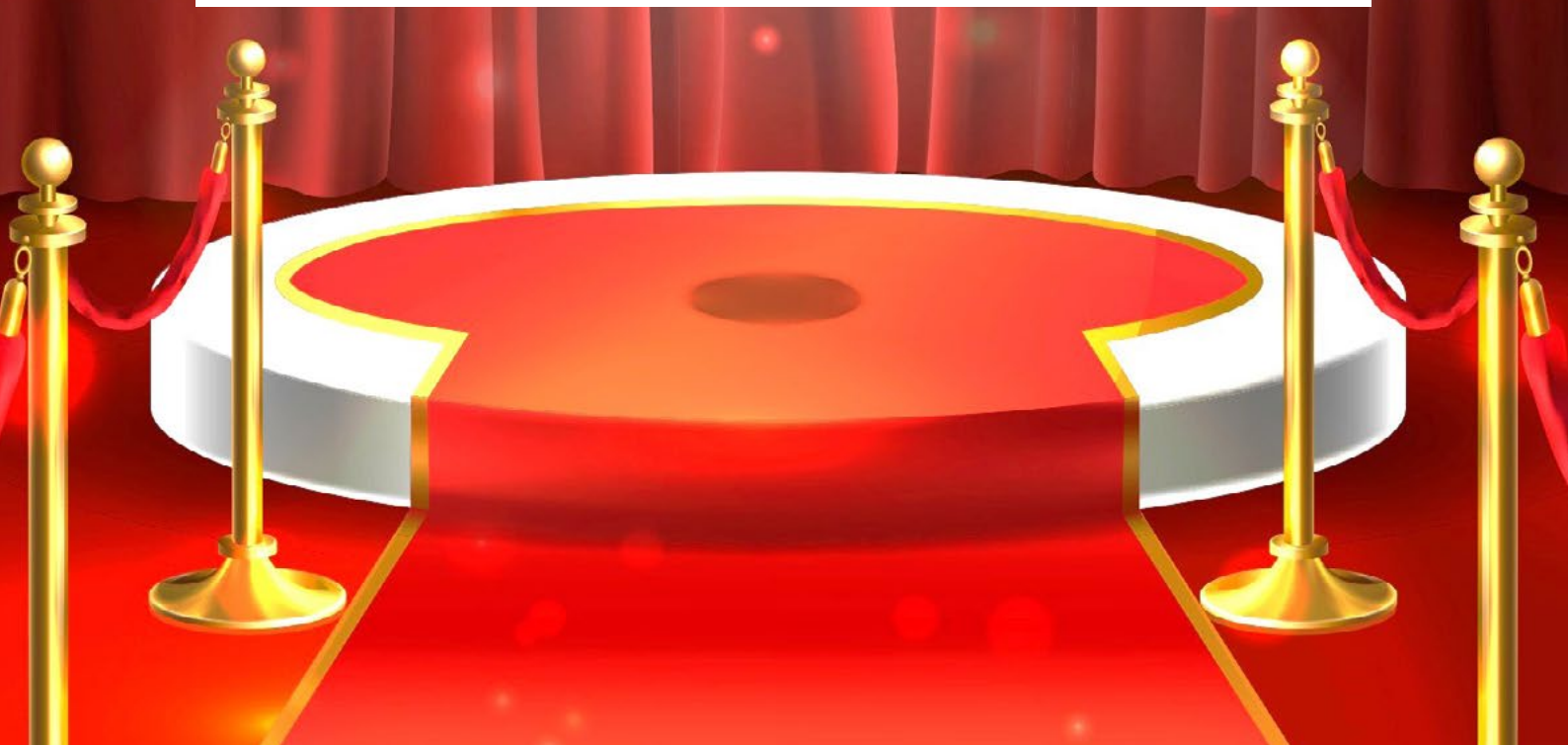
🏆 Lumax Industries Limited Chakan India

🏆 Sigma Electric Manufacturing Corporation Private Limited Unit-II, Pune India

🏆 Sigma Electric Manufacturing Corporation Private Limited Unit-III, Pune India

🏆 Sigma Electric Manufacturing Corporation Private Limited VKIA, Jaipur India

🏆 CIE Automotive India Limited Bill Forge Division Plant-1, India



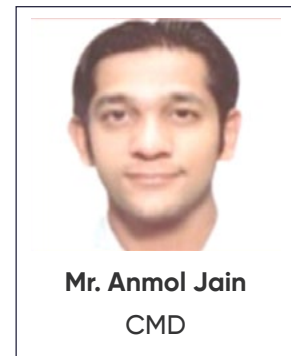
Company	: Lumax Auto Technologies Limited
Factory	: Lumax Auto Technologies Limited
Product	: Lighting & Polymer Part
TPM Kick-off	: 9 <sup>th</sup> Apr 2008

🏆 Award for TPM Excellence – First Category Mar Year 2013

#### Award for Excellence in Consistent:

🏆 TPM Commitment– First Category Mar Year 2016

🏆 Award for TPM Excellence in Special Category Mar Year 2024



#### Company Profile:

Lumax Auto Technologies Limited - Pantnagar plant is part of the Lumax-DK Jain group, and was established in 2007 to cater to one of the prestigious two-wheeler manufacturer, Bajaj Auto Limited. This Plant was previously called Lumax DK Auto Industries Limited and has been recently merged with Lumax Auto Technologies Limited and the name has been changed to Lumax Auto Technologies Limited. The plant is engaged in manufacturing of Light assemblies, Plastic moulded and painted parts like Fairing assembly, Fender assembly, Head Lamp assembly, Tail Lamp assembly & Blinker Lamp assembly.

#### Expectations from TPM:

TPM Implementation at Lumax Auto Technologies Limited Pantnagar Plant helped in achievement of business results. Our financial & other Business Parameter growth which has seen a steady upward trend right since TPM Kick-off.

#### Achievement area - Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before FY2015-16	After FY2022-23
1	P	Productivity	Parts/Operators Hrs	7.2	11.9
2	P	OEE	%	75	86
3	P	No of Break down	Nos / Year	0	0
4	Q	No of Customer Complaints	Nos / Year	0	0
5	Q	In line defect Rate	%	0.06	0.05
6	C	Conversion Cost	% to Sale	19.88	13.26
7	D	Production Lead Time	Days	3.5	1.6
8	D	Delivery Performance	%	100	100
9	S	Major Incident	Nos / Year	0	0
10	S	First AID	Nos / Year	4	0
11	M	No of Suggestion	Nos / Year	386	1495



Company	: Lumax Auto Technologies Limited
Factory	: Lighting
Product	: Head Lamps, Tail Lamps, Blinkers, Reflex Reflectors, Rear Fender assembly, Leveller Motors, Warning Triangles.
TPM Kick-off	: 28 June 2013



**Mr. Vishnu Johri**  
CEO

 Award for TPM Excellence – First Category      2016– 17 Year

#### **Award for Excellence in Consistent:**

 TPM Commitment– First Category      2023–24 Year

#### **Company Profile:**

Lumax Auto Technologies Ltd, Chakan plant was established in 1995, with Fabrication parts like Silencers, Chassis for Two-wheelers, and Forks. From 1995 Lighting parts were introduced to plant products. In 2011, Metallizing facility was introduced. LATL, Chakan plant is situated in a Plot area of 10800 sq. mtrs, and with a built-up area of 5048 sq. Mtrs. The connected load is 1000 KVA with backup DG set capacity – 400 KVA. This plant has a total permanent manpower of 90 employees i.e. 41 staff and 49 Associates and approx. 150 contractual workers. At present the plant is manufacturing 100% Lighting products for 2 wheeler and 3 Wheeler and has Bajaj Auto Ltd as a major Customer with > 85 % of SOB and the rest for Mahindra and Mahindra 2 Wheeler and Piaggio Vehicle Pvt Ltd through Lumax Industries Ltd.

#### **Expectations from TPM:**

1. 100% Poka yoke for defect free system
2. 100% FIFO in all storage system
3. Lowest Manufacturing Cost
4. Employee Moral Improve
5. Achieved Zero Breakdown

# AWARD FOR EXCELLENCE IN CONSISTENT TPM COMMITMENT



## Achievement area - Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before	After
1	S	Number of work-related accidents requiring days off work	Cases/ year	0	0
2	S	Number of work-related accidents not requiring days off work	Cases/ year	0	0
3	P	Productivity for main products (Assembly Process)	Parts/Operator hours	14	31
4	P	OEE	%	92.2	94.3
5		(or Overall Plant Efficiency)			
6	P	Availability	%	96.5	97.3
7	P	Performance Rate	%	97	97.8
8	P	Quality Products Rate	%	98.5	99.1
9	P	Number of breakdowns	Breakdowns/ year	14	6
10	P	MTBF	Hour	8850	18000
11	P	MTTR	Hour	1.6	1.2
12	Q	Number of customer complaints	Number/year	10	0
13	Q	In-line defect rate (scrap)	%w .r.t RMC (Raw Material Cost)	1.2	0.7
14	Q	In-line defect rate (rework)	%	0	0
15	C	Cost index (Conversion Cost)	%. To Sale	8.55	7.55
16	D	Production Lead time	Days	2.2	1.5
17	D	Delivery performance	%	100	100
18	S	Frequency rate	Number of occupational accidents with leave for 1 000 000 worked hours	0	0
19	M	Number of Employee Suggestions	Number/year/Man	12	21

# AWARD FOR EXCELLENCE IN CONSISTENT TPM COMMITMENT



Company : Lumax Industries Ltd  
Factory : Bidadi, Bangalore  
Product : Automotive Lighting Equipments  
TPM Kick-off : 17<sup>th</sup> Dec, 2013

🏆 Award for TPM Excellence – First Category 21<sup>st</sup> March 2019

## Award for Excellence in Consistent:

🏆 TPM Commitment– First Category 20<sup>th</sup> March 2024



**Mr. Vishnu Johri**  
CEO

## Company Profile:

Lumax DK Jain Group is owned by DK Jain Family and consists of two listed companies, i.e. Lumax Industries Limited and Lumax Auto Technologies Limited. Lumax is currently operating with 15 entities spread in seven states across India. There are thirty-seven manufacturing plants across India.

Ground breaking ceremony of Lumax Bengaluru Plant started on 12th June 2011 and production commenced on 27th Aug 2012 with manufacturing of Automotive Lights for Toyota Kirloskar Motor Ltd. Lumax Bengaluru Plant is having installed capacity of 26 million Two-Wheeler Sets per annum and currently its capacity utilization up to 24 million Sets per annum and for four-wheeler Capacity is 1.4 million of automotive lighting & current utilization is up to 1.2 million vehicle Sets. Total area in Lumax Industries Limited, Bengaluru Plant have 21812 Sq.Mts. and Built-Up area is 12000 Sq. Mts. Total Manpower Strength is 609 Nos.

## Expectations from TPM:

Promoting our Organization towards World Class Manufacturing Level through various TPM tools, System and Methodologies Practices.

## Achievement area - Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before	After
1	S	Number of work-related accidents requiring days off work	Parts/Operators Hrs	7.2	11.9
2	P	OEE (or Overall Plant Efficiency)	%	85.9	90.4
3	P	Availability	%	88.7	97
4	P	Performance Rate	%	80.2	95.2
5	P	Quality Products Rate	%	88.9	98
6	Q	In-line defect rate (rework)	%	0.4	0.1
7	D	Production Lead time	Hour	91	36
8	D	Delivery performance	%	100	100
9	M	Number of Employee Suggestions	Number/Qtr	3	4

Company	: Automotive Axles Limited
Factory	: Automotive Axles Limited, Hootagalli, Industrial Area, Mysuru, Karnataka
Product	: Drive Axles, Non-Drive Axles, Front Steer Axles, Specialty & Defence Axles, And Drum Brakes
TPM Kick-off	: 4 <sup>th</sup> Nov 2020

🏆 Award for TPM Excellence – First Category      Mar 20<sup>th</sup> Year 2024



**Mr. Nagaraja  
Gargeshwari**  
President & Whole  
Time Director

## Company Profile:

Established in 1981, Automotive Axles Limited (AAL) is a joint venture company between Bharat Forge Limited, Pune, India and Meritor Heavy Vehicle Systems LLC, USA. With manufacturing facilities located at Mysore (Karnataka), Pantnagar (Uttarakhand), Jamshedpur (Jharkhand), and Hosur (Tamil Nadu). AAL manufactures drive axles, non-drive axles, front steer axles, specialty & defence axles, and drum brakes. It provides these products to the major domestic and global manufacturers of trucks & buses pertaining to segments such as light, medium & heavy commercial vehicles, military & off-highway vehicles, aftermarket, and exports. As a continuous process, the company believes in introducing new products regularly to meet the emerging needs of the commercial vehicle market.

AAL has developed an impressive domestic OEM clientele that includes Ashok Leyland, Tata Motors, Daimler India, Volvo India, BEML, Mahindra Trucks & Buses, Caterpillar, Escorts. AAL also exports axle parts to UD Trucks & Cummins Meritor entities 19 Countries. Our Products range covers all commercial vehicles starting from 7T to 55T (GVW- Gross vehicle weight).

TPM tools & Technique is the solution we adopted for effective management of continual change in Business Scenario. TPM Journey drives AAL towards a continuous increase in productivity by eliminating all losses & waste.

# AWARD FOR TPM EXCELLENCE CATEGORY A



**Below are tangible benefits on key business results in terms of PQCDSE**

Company	Automotive Axles Limited
Plant name	Automotive Axles Limited, Hootagalli Industrial Area, Mysuru
TPM Slogan/Objectives	<b><i>"Together Towards World Class Through TPM"</i></b>
Year when TPM activity started	2018
Year of benchmarking	2018- 2019

S.No.	Category	Index (Calculation Formula)	Unit	Percentage Improvement (% ↑) Benchmark period (2018 – 2023)
1	P	Productivity for main products	%	29.6
2	P	OEE (Overall Plant Efficiency)	%	26.7
3	P	Number of breakdowns	%	64
4	P	MTTR Improvement	%	40.5
5	Q	In-line defect rate, rework	%	79.6
6	D	Production Lead time	%	14.2
7	S	Safety index	%	72
8	M	Number of Employee Suggestion / Kaizen	%	114





Company	: Lumax Industries Ltd, Chakan
Factory	: Lighting
Product	: Head Lamp, Tail Lamp, Side Turn Lamp, Day Running Lamp, High Mount Stop Lamp and Reflex Reflector
TPM Kick-off	: Jan-2016

 Award for TPM Excellence – First Category      2023-24 Year



**Mr. Vishnu Johri**  
CEO

### Company Profile:

**Lumax Industries Limited** is a public limited company. It has **Ten Manufacturing Plants** spread across India strategically located near to Customers. Out of these, three are located near New Delhi, in cities of Gurugram, Dharuhera and Bawal in the state of Haryana. Three plants in Pune, near Mumbai in Maharashtra, two plants in Uttarakhand – Pantnagar, Haridwar, One is located in Bidadi, near Bangaluru in the state of Karnataka, and one plant recently commissioned after expansion at Sanand. These facilities have been laid out to match the world's best plant engineering standards. Our plants are producing automotive lighting for almost all OEMs.

### Expectations from TPM:

1. Lowest manufacturing cost
2. Deskillling of all processes
3. 100% Poka Yoke for defect-free systems
4. 100% FIFO in all storage systems
5. Indigenisation of development activities for reducing cost and lead time
6. Development of suppliers with TPM learning to provide cost benefits
7. Proficiency in new technology products
8. Achieve zero Breakdown
9. Employee Morale Improve

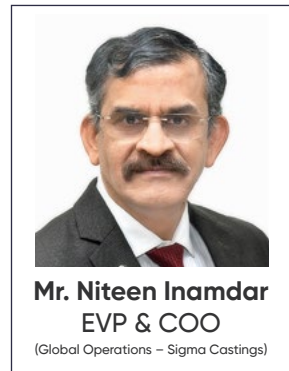
## Achievement area - Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before	After
1	S	Number of work-related accidents requiring days off work	Cases/Year	0	0
2	S	Number of work-related accidents not requiring days off work	Cases/Year	16	0
3	P	Productivity for main products (Assembly Process)	Parts/Operator hours	5.2	11.2
4	P	OEE	%	64.8	88.2
5	P	Availability	%	81.2	91.2
6	P	Performance Rate	%	89.5	98.2
7	P	Quality Products Rate	%	89.2	98.5
8	P	Number of breakdowns (All Machines)	Breakdowns/Year	888	48
9	P	MTBF (All Machines)	Hour	2580	8970
10	P	MTTR (All Machines)	Hour	2.3	1.2
11	Q	Number of Customer Complaints	Number/Year	90	6
12	Q	In-line defect rate (scrap)	% w.r.to RMC (Raw Material Cost)	6.2	2.3
14	Q	In-line defect rate (rework)	%	Not Applicable	
15	C	Cost index (Conversion Cost)	% To Sale	12.3	10.6
16	D	Production Lead time	Days	18	13
17	D	Delivery performance	%	95	100
18	S	Frequency rate	Number of occupational accidents with leave for 1 000 000 worked hours	0	0
19	M	Number of Employee Suggestions	Number/Year/Employee	4	24

Company	: Sigma Electric Manufacturing Corporation Pvt. Ltd.
Factory	: Unit II
Product	: Electrical, Lighting and House Hold Appliances
TPM Kick-off	: 28-May-18

 Award for TPM Excellence – First Category      March - 2024



### Company Profile:

Sigma Electric is a global leader in manufacture of ferrous and non-ferrous castings, precision machined components and sub-assemblies. Sigma has established long-term partnerships with its global customers, working closely to help them meet the challenges of a highly competitive business environment.

Sigma Electric is a 100 % Export Oriented Organization. Set up 30 years ago. HQ at Garner, NC, US. There are over 5000 team members worldwide. Sigma has a majority shareholding from Argand Partners, USA.

Sigma group is having total 12 manufacturing facilities throughout the world. Out of which 6 manufacturing plants are located in Pune, 2 plants in Jaipur and 4 plants are in US and Mexico.

### Expectations from TPM:

- **Safety:** To achieve zero accident, to ensure zero health hazards, to reduce air, noise, water, land pollutions.
- **Quality:**
  - Zero Customer complaint,
  - Internal rejection reduction by 90%
- **Cost:** Cost reduction by 30%
- **Productivity:** Improvement by 30%
- **Morale:**
  - Kaizen per person per month >2 nos
  - 100% Employee involvement

# AWARD FOR TPM EXCELLENCE CATEGORY A



## Achievement area – Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before (FY18)	After (FY24)
1	P	OEE	%	77.4	90.73
2	Q	Customer Complaints	Nos	80	1
3	Q	Internal Rejection	%	3.96	2.75
4	D	On time Delivery	%	85	98
6	S	First Aid	Nos	169	3
7	S	Green Spider Score	Score	4.54	4.87
8	M	Lean Spider Score	Score	4.11	4.92
9	M	Kaizen	Kaizen / Man / Month	0.39	3.04



Unit II (A2, A3) Pune



Company	: Sigma Electric Manufacturing Corporation Pvt. Ltd.
Factory	: Unit III
Product	: Electrical, lighting, industrial, power tools,
TPM Kick-off	: 28-May-18

🏆 Award for TPM Excellence – First Category      March - 2024



**Mr. Niteen Inamdar**  
EVP & COO  
(Global Operations – Sigma Castings)

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# AWARD FOR TPM EXCELLENCE CATEGORY A



## Achievement area – Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before (FY18)	After (FY24)
1	P	OEE	%	71	86
2	Q	Customer Complaints	Nos	31	0
3	Q	Internal Rejection	%	8.99	4.53
4	D	On time Delivery	%	94	98
5	S	First Aid	Nos	166	0
6	S	Green Spider Score	Score	4.54	4.85
7	M	Lean Spider Score	Score	4.11	4.92
8	M	Kaizen	Kaizen/Person/Month	0.74	2.78



Company	: Sigma Electric Manufacturing Corporation Private Limited, VKIA, Jaipur
Factory	: Sigma Electric Manufacturing Corporation Private Limited, VKIA, Jaipur
Product	: Manufacturer of more than 2778 products in various business segments like electrical, power transmission and distribution
TPM Kick-off	: 8 <sup>th</sup> June 2018



 Award for TPM Excellence – First Category      March – 2024

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  - Kaizen per person per month >2 nos
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# AWARD FOR TPM EXCELLENCE CATEGORY A



## Achievement area – Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before (FY19)	After (FY24)
1	M	Customer Satisfaction	%	69	84
2	M	Lean Score	Nos. out of 5	4.45	4.89
3	S	Green Spider Score	Nos. out of 5	4.5	4.84
4	P	OEE – Foundry Machines	%	68.15	83.8
5	P	OEE – Machine Shop	%	64.32	84.6
6	Q	Customer Complaint	Nos.	333	0
7	D	On time Delivery	%	89	96
8	S	First Aid	Nos.	37	3
9	M	Kaizen/Person/Month	Nos.	0.92	2.71





Company	: CIE Automotive India Ltd., (Bill Forge Division)
Factory	: Plant-1
Product	: Automotive
TPM Kick-off	: 2018



**C J Sunny**  
GM Operations

 Award for TPM Excellence – First Category    A\_Year\_2023

### Company Profile:

CIE Automotive India Limited (Bill Forge Division) Formerly known as Bill Forge Private Limited started by Mr. Anil Haridass was an unlisted private company incorporated on 23 December 1985 to supply automobile manufacturers Bill Forge Private Limited was acquired by CIE Automotive Limited in 2016, and now it is part Mahindra CIE Automotive Limited

Bill Forge Division Plant-1 is mother plant of Bill Forge Group located in Bommasandra Industrial Area, of Indian Karnataka State, Facilities include Cold Forging Presses, CNC machines, Centreless grinding Machine, Heat Treatment Furnaces, 90% Business is from 2-wheeler automotive OEMs, Plant-1 Started TPM Journey in 2018 and achieved TPM Excellence award in the year July-2023

### Expectations from TPM:

To increase overall plant performance by Improving OEE , Reduce conversion cost , Reduce Machine Breakdowns, Reduce cost of poor quality , WIP Inventory reduction

## Achievement area - Tangible Benefits

Please specify with respect to P, Q, C, D, S & M

S.No.	Category	Parameter	Unit	Before	After
1	Productivity	OEE	%	62	85
2	Productivity	Breakdown hours	Hours/Month	60	2
3	Productivity	Breakdown occurrences	Nos/Month	10	1
4	Quality	Customer complaints	Per year	8	0
5	Quality	Rework	%	4.6	0.64
6	Quality	COPQ	% of sale	0.97	0.11
7	Cost	Conversion cost	% of sale	22.81	20.29
8	Cost	WIP Inventory	Days	60	41
9	Safety	Minor Accident	Nos	6	0
10	Morel	No of Kaizens	Nos/Year	No Data	1867



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Confederation of Indian Industry

With an objective of supporting Indian Industry to become competitive through adoption of TPM, Confederation of Indian Industry (CII) signed an MoU with Japan Institute of Plant Maintenance (JIPM), Japan in March 1998 and created TPM Club India as an entity within CII. CII TPM Club India thus became the launch vehicle to promote TPM in India.

Since then, TPM Club India has been supporting the Indian Industry through propagation and implementation of TPM technologies. To further promote and create a wide support structure across India through a network of professionals, the CII IQ TPM Club India has launched the TPM Club Professional Membership. This forum will provide an opportunity to connect, learn, propagate, and contribute actively to further improving the competitiveness of the Indian Industry towards the goal of Competitive, Inclusive and Self-reliant India.

The TPM Club India is only organization whose previous two Heads were awarded Nakajima Award by JIPM due excellent work done in spreading TPM in India. It's only Indian organization and among few in the world whose present head is nominated by JIPM in the Global team to decide Global TPM Implementation Standard under guidance of BSI, England.

### **CII TPM Club India**

Near Bharat Nagara,

II Phase Magadi Main Road

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