TDK INDIA PVT. LTD.

Nashik Plant

Company Background: TDK Key Information

Tokyo Denki Kagaku Kogyo

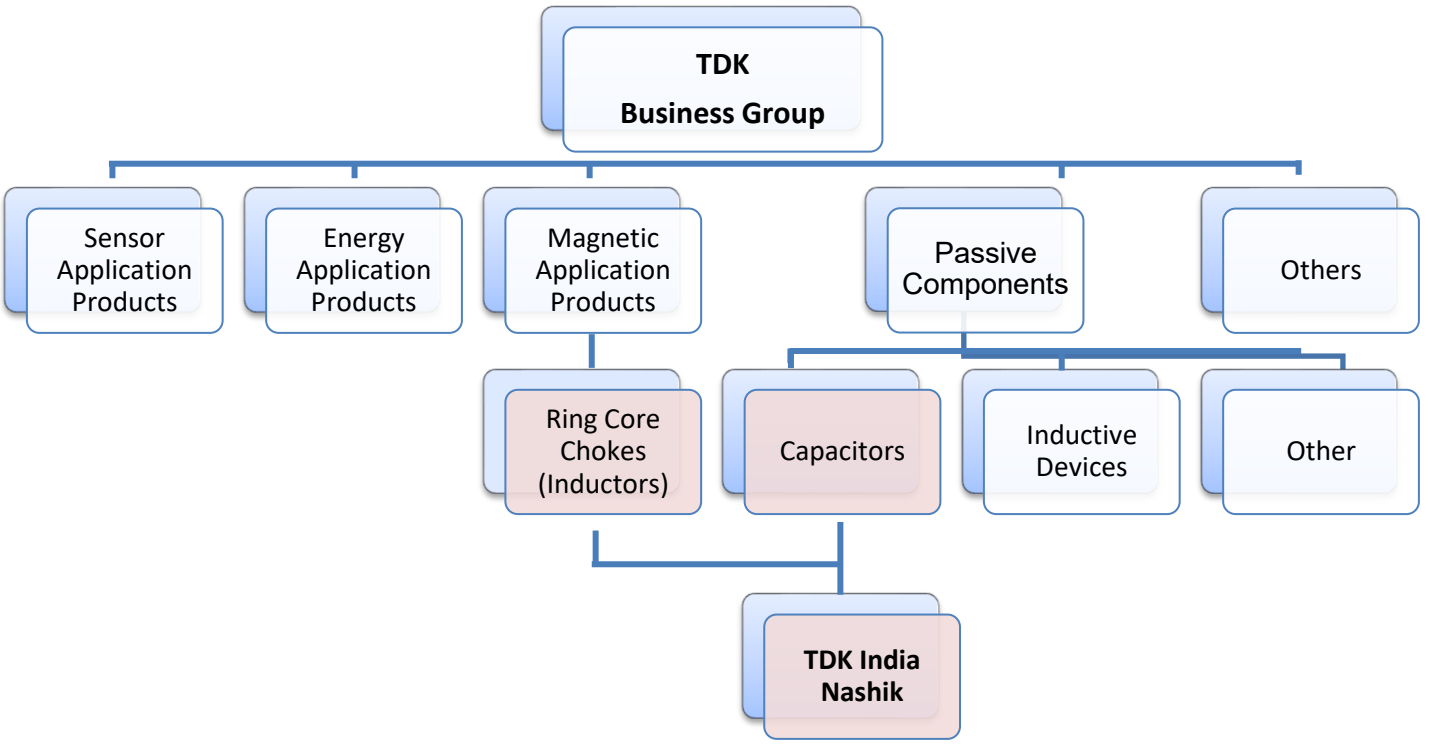
(Tokyo Electronics & Chemicals)

- TDK Corporation is a leading electronics company having headquarter in Tokyo, Japan established on December 7, 1935
- TDK focuses on demanding-markets in the areas of automotive and industrial-electronics, information and communication technology.

Sales	¥ 2205 Billion Yen, (1353 Bio INR) FY 2025
Sites	>250 factories, R&D, and sales offices in more than 30 countries
Employees	1,03,000

Company Background: TDK Key Information

- Our Company is a leading electronics company, our portfolio includes electronic components, modules and systems, power supplies, magnetic application products as well as energy devices, flash memory application devices, and others.
- The company focuses on demanding markets in the areas of automotive and industrial electronics, information and communication technology, and consumer. These are business related information, company headquarter is in Tokyo Japan, company sales is ¥ 2205 Billion Yen in FY 2025. Company is having its presence in more than 30 countries with more than 250 factories, R&D and sales offices with 1,03,000 employees worldwide. TDK Nashik factory is a part of CAP Division under Passive Components.
- The business group structure is as mentioned:



"In Everything, Better" - TDK's Contribution

TDK's presence is in three major market segments: Information and Communication Technology (ICT), Automotive, and "Industrial and Energy" fields. TDK's tagline "Attracting Tomorrow" shows our focus to serve towards Energy Transformation and Digital Transformation; ensuring our contribution in evolving infrastructure and attracting customers in various applications (described as seven Sea's) which touch Human Life…

TDK's presence in "Today"

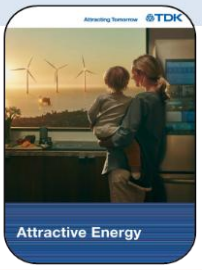
Major three market segment:
1. ICT (Information and Communication Technology)
2. Automotive
3. Industrial & Energy

TDK's "Attracting Tomorrow"

TDK's contribution in evolving social infrastructure. **Seven applications**:

(Described as **"Seven Seas")**

Energy transformation (EX):
Contribution to energy and environmental solutions by minimizing waste heat and noise with electronic devices



Digital transformation (DX):
Promotion of the digitization of society by adding software technology to material science and process technology

TDK in India

Details about TDK in India are given as below:

- TDK India has manufacturing plants at
  - Nashik - Film Capacitors and Magnetic Ring Core Chokes
  - Kalyani – Ferrites and Transformers
  - Bawal and Manesar - Lithium-Ion Batteries
- TDK have four regional sales offices, six home offices and TDK ventures at Bengaluru.
- TDK Nashik Plant started its operations in 1995.
- TDK Nashik revenue is 8335 million INR in FY 2025 with 1688 employees.
- Our product portfolio includes various capacitor products such as DC, AC, PFC, PEC, MKP and RKD ring core choke products
- Details of geographical locations and Product portfolio are as follows:

At a glance

❖ TDK Footprint

- Film Capacitors and Magnetic Ring Core Chokes Plant – Nashik (Maharashtra)
- Ferrites & Tfr Plant, Kalyani (West Bengal)
- Lithium-Ion Batteries Plant, Bawal (Haryana)
- Lithium-Ion Batteries Plant, Manesar (Haryana)
- Lithium-Ion Cell Plant, Bawal (Haryana)
- Lithium-Ion Cell Plant, Sohna (Haryana)
- TDK Ventures, Bengaluru (Karnataka)

❖ TDK Revenue

- Revenue INR 8335 million INR (FY 25)
- 1762 employees (Nashik) (FY 25)

❖ TDK Sales Offices

- 4 regional Sales offices
- 6 Home offices

Nashik Plant Overview and Details

The below photograph shows overview of our Nashik Plant manufacturing facilities. It has six buildings named as Aarambh (DC), Unnati (RKD and R&D), Nirmiti (DC 2), Pragati: Film & PC Plant, Samruddhi and Warehouse.

In year 2022, a new building proposal was initiated by management to address the growing demands of the market and to enhance production capacity. After extensive planning and development, construction work began, and the project steadily progressed over the years. By year 2023, the new building (named Samruddhi) was fully completed which marked a significant milestone. The TIPL Plant aerial view is as given below:

► 1 – DC unit I ► 2 – RKD, R&D ► 3 – DC unit II ► 4 – PC plant ► 5 – Film plant
► 6 – Samruddhi: DC Unit III ► 7 & 8 – Warehouse

Plant Details	
Land Area	60,095 sq. m.
Built up area	60,000 sq. m.
Distance from Mumbai	200 km
Distance from Airport, Mumbai	170 km
Distance from Airport, Nashik	30 km

1.6.1 Employee and Machine Details

Our plant had total 1762 no. of employees in FY 2025. Around 67% of the employees in the age group of below 35 years. Below table shows the details of employee and their age group analysis.

Employee Age Analysis		
Sr. No.	**Age group**	**Number of Employees**
1	< 20 years	77
2	> 20 to 25 years	522
3	>25 to 30 Years	436
4	>30 to 35 years	146
5	> 35 to 40 years	135
6	> 40 to 50 years	277
7	>50 years	169
Total		**1762**

In below table, our plant staffing structure is explained. We have total 3 shifts (A, B and C) in manufacturing areas, and one is General shift. General shift having fixed time from 08.30 AM to 05.00 PM. In Manufacturing areas, shifts are - A shift from 06.30 AM to 03.00 PM, B Shift from 03.00 PM to 11.30 PM and C shift from 11.30 PM to 06.30 AM with the total manpower of 1762.

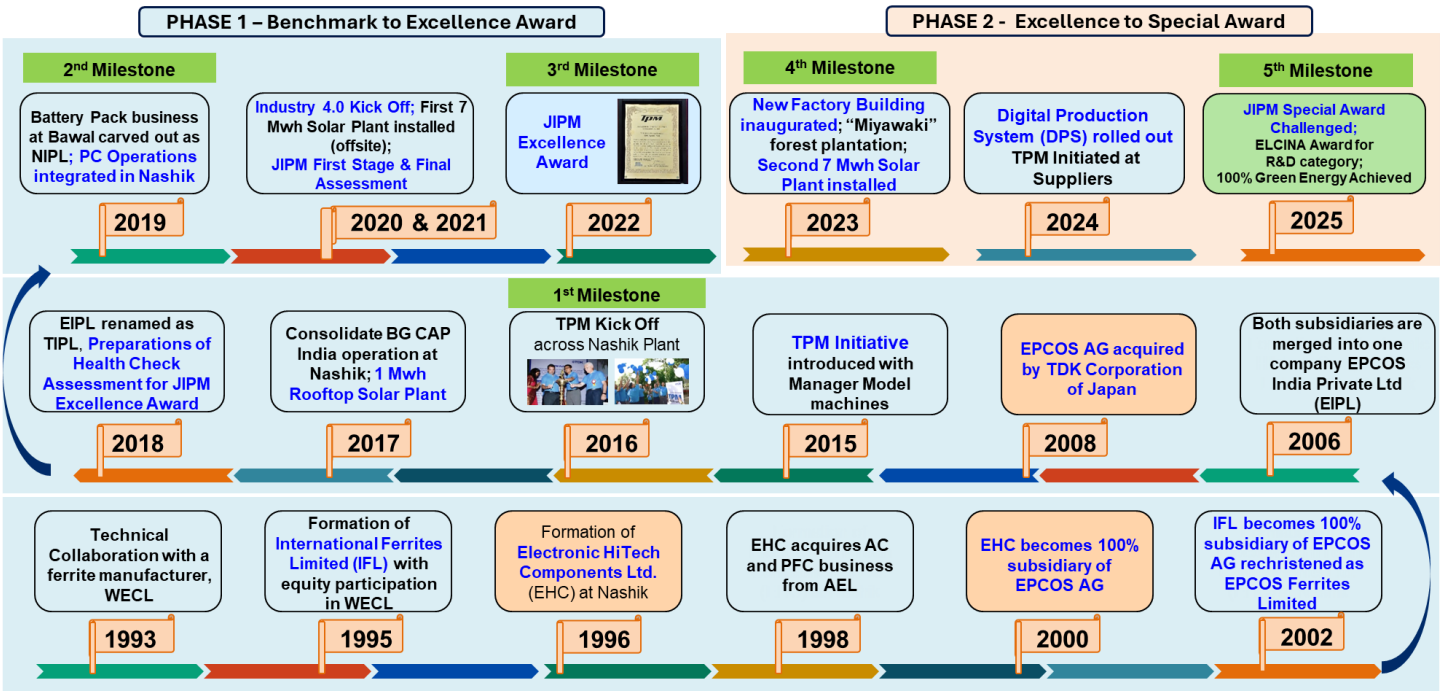
Company is promoting women on the shopfloor which involves creating a supportive and inclusive culture through targeted efforts and initiatives.

Staffing Structure TIPL Nashik					
Designation	Total Manpower	08:30 AM to 5:00 PM General Shift	06:30 AM to 3:00 PM A Shift	03:00 PM to 11:30 PM B Shift	11:30 PM to 6:30 AM C Shift
Managers and above	137	137	-	-	-
Engineer & Senior Engineers	109	82	9	9	9
Supervisors	36	18	8	6	4
Other Operation and BA staff	69	63	1	3	2
Operators	411	85	146	102	78
Trainee	1000	114	369	315	202
Total	**1762**	**499**	**533**	**435**	**295**

Below mentioned is the age analysis of machines in plant, In Phase 1, Plant were having total 564 Number of machines and after enhancing the product development and capacity increasing, we have now total 1017 number of machines. We have highest machine in the age group of 0 to 5 years, while 40% of machines are >10 years' age.

Machine Age Analysis						
Age Group	Number of Machines					
	FILM	DC	PC	UTILITY	LAB	TOTAL
0 to 5 years	2	219	88	22	110	441
> 5 to 10 years	5	45	53	30	27	160
>10 to 15 Years	5	59	88	19	26	197
>15 to 20 years	10	46	31	14	6	107
> 20 years	0	78	16	13	5	112
Total	**22**	**447**	**276**	**98**	**174**	**1017**

TDK Nashik – The Journey and TPM Milestones



Comprehensive Product Portfolio and Capacity

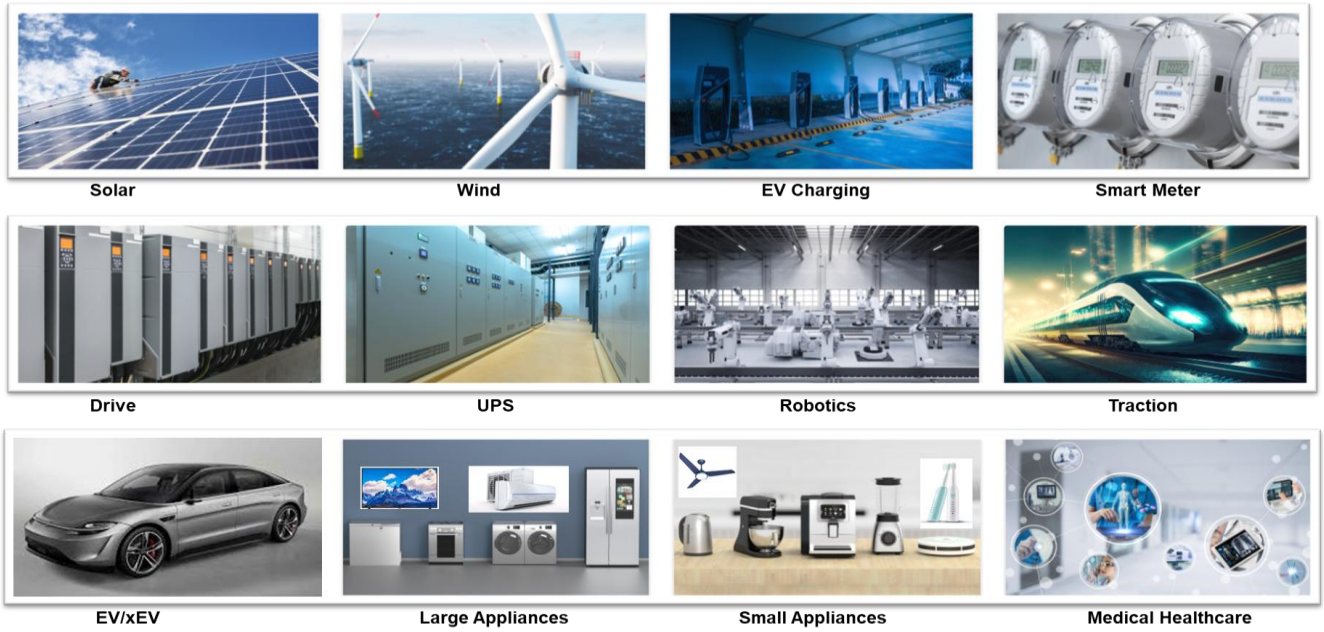
Our plant comprehensive Product portfolio includes DC (Direct Current) Capacitors, PC (Power Capacitors) Capacitors. After phase 1, new product family MKP and Ring Core Chokes added in our product portfolio. Details about product, its photo, applications and capacity are mentioned below.

Product Name	Product Photo	Major Applications	Annual Capacity
DC Capacitor		• EMI filtering, DC Links, PFC, Pulse, Snubbering, Resonant & Output filtering etc. • Renewables (Solar, Wind, Energy storage) • Industrial Drives, Inverter, CDI, Power Supplies, Energy meters, Lighting • EV (OBC, DC-DC, HV heating, Charging)	**DC: 525 Mio pcs** 30 Assembly Lines Lines: 29 Box, 1 PD
AC Capacitor		• Motor Run and Motor Start application for White Goods Aircon, Washer, Output Filter Caps, DC Link, Lighting, Pumps, Heat Pumps, Garage opener	**AC: 51 Mio pcs** 21 Lines
PFC		• PF Correction and Power Quality Improvement in transmission and distribution network, wind farms and • Energy storage and Surge protection • High Energy Pulse application (MRI, AED)	**PFC: 1.6 Mio pcs** 4 Lines; HT Caps: 3.7 MVAR; 14.4 K pcs LV Caps: 26.4 K pcs Reactors: 51.6 K pcs
PCCLP/ PEC Capacitor		• Automotive • Drives	**PEC: 276 K pcs** 2 Lines
MKP		• Renewables (Solar, Wind, Energy storage) • Industrial Drives, Converters, UPS • AC/DC Filtering for industrial, Traction	**MKP DC : 135 K pcs** **MKD AC 3.0 : 90 K pcs**
Ring Core Chokes		• Switch Mode Power Supply • Inverters	**4.0 Mio pcs;** 1 Line **13 Mio pcs** (3 Lines) by FY 26

New Product Family

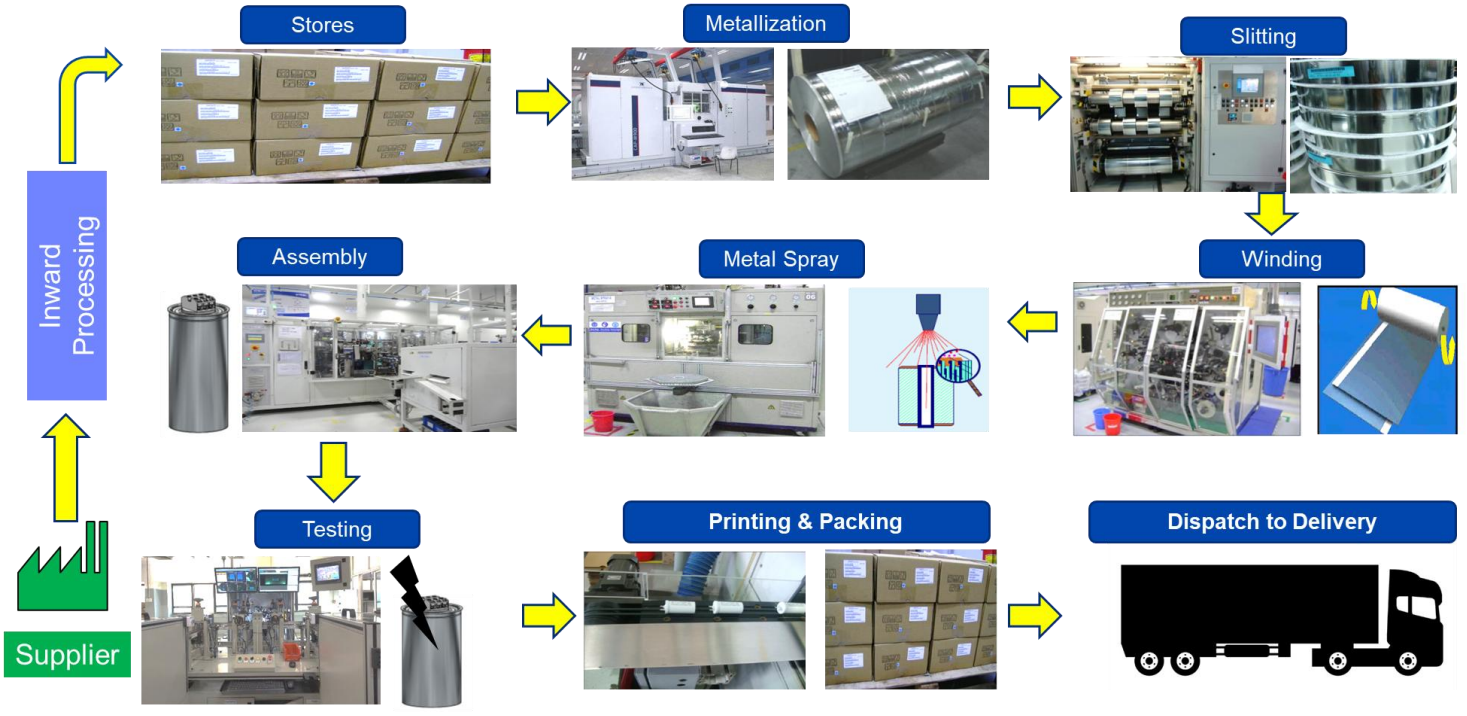
We Touch Human Life Every Moment

We are proud to mention that our products touch human life every moment. It is through various utilities and applications as shown below:



Manufacturing Process Flow

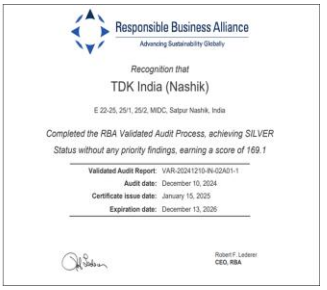
Our manufacturing process starts with receipt of RM from Suppliers to incoming Stores. Production process start with Metallization, Slitting, Winding, Metal Spray, Assembly, Testing, Printing, Packing and Dispatch. Below mentioned is manufacturing process flow for capacitor manufacturing.



Certification

We have all major certifications such as **ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, IATF 16949:2016**, **RBA Certificate.** We are also certified with CSR certification.

Under Smart Factory pillar initiative, TIPL has successfully qualified **"Trusted Information Security Assessment Exchange"** (**TISAX** 6.0) audit from DNV Germany and is certified with no observation. The auditor noticed many best practices followed by TIPL and mentioned one of the best site amongst all 16 TDK sites audited in TEG.



ISO 9001:2015	ISO 14001:2015	ISO 45001:2018	IATF 16949:2016	RBA Certificate	TISAX Certificate

Manufacturing Facilities

We have state of the art manufacturing facility such as Metallizer, Slitter, Winding Machines, Metal Spray Machine, Epoxy preparation, Capacitor Welding and Assembly Machine, Capacitor Testing Machine, AOI Camera Vision system etc.

BOPP Film Metallizer

MPP Film Slitter

Winding Machine

Metal Spray Machine

Epoxy preparation

Welding and Assembly

Testing Machine

AOI Camera Vision system

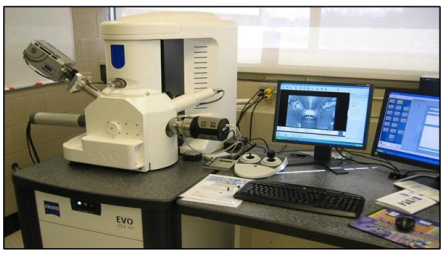
Testing Facilities

We have a technically equipped, state of the art Endurance Lab test set up to facilitate various capacitor testing such as Endurance Test, Impulse test, Destruction test set up, Ageing Test set up, Environment Chamber, Self-healing Impulse test set up. This reliability testing of products for design proto samples as well as production line samples and product improvements carried there upon ensures robust and reliable product for customers.

Long Endurance Test Facilities For MPP Capacitors

Environmental Test set up

Active Flammability Test Setup



Scanning Electron Microscope

DC LET Test Setup

Self Heating Impulse Test Set Up

Our Valued Customers

Our plant supplies products for Indian market as well as global markets. Below shown are some of our valued customers in both India and global market. We have specific plans and focus to add major customers.

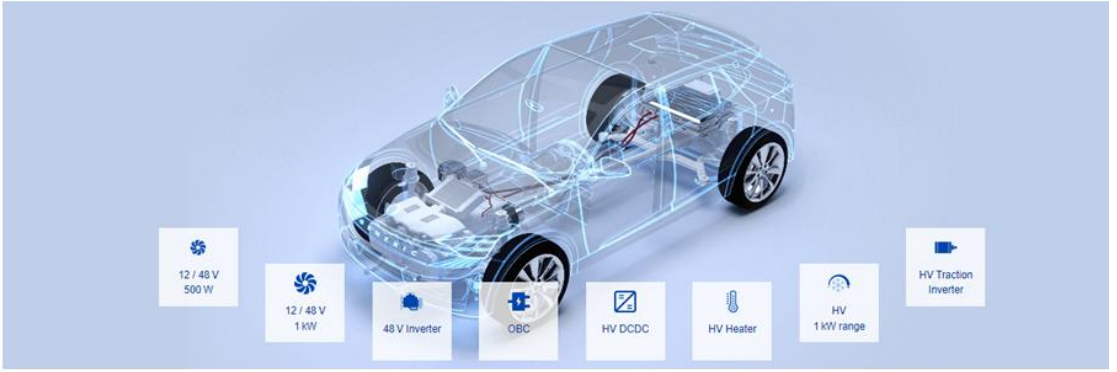
Industry	Home Appliances	Automotive	Renewables	Other applications	Other applications
HITACHI Inspire the Next, Schneider Electric, GRUNDFOS	DAIKIN, somfy	RENAULT, ALSTOM	MITSUBISHI ELECTRIC	ENTES, E·G·O	SECURE, Genus energizing lives
BECKMAN COULTER, EATON	Whirlpool	preh, Valeo	SIEMENS Gamesa RENEWABLE ENERGY	SIEMENS Healthcare	MAHAVITARAN, melchioni ELECTRONICS
ABB, TSi POWER	Panasonic, Electrolux	varroc, BMW, META SYSTEM	ENERCON INDIA	DYNATECH ENGINEERS, SHREE TRADING SYNDICATE	LAVTI, ARIHANT
VERTIV, MICROTEK, LUMINOUS	LG Life's Good, VOLTAS LIMITED	MAHLE Driven by performance, Ford Go Further	ENPHASE, Vestas	SAMSUNG, LUMINOUS	Digi-Key, Rabyte
GE, EMERSON	Carrier turn to the experts	BorgWarner, WOORY, INDIA NIPPON ELECTRICALS LIMITED	SUZLON POWERING A GREENER TOMORROW	Celestica, KVTEK POWER SYSTEMS Changing the Paradigm	MOUSER ELECTRONICS, tti
BEIJING INTERNATIONAL TRUST CO.,LTD., SIEMENS	Godrej, G	NAPINO, Zollner, DELTA	Fuji Electric, negwatt	PHILIPS sense and simplicity, AVNET	JABIL, SANMINA
GENERAC, Danfoss, ELSPEC, HALLIBURTON	Dixon, HAVELLS, Haier, B/S/H/	TESLA, TATA, TATA AUTOCOMP, sunlord	GE VERNOVA, solaredge, NEXTEN	Fortune, CAPITAL, Salcomp	ELEKTRONIKA, DEMSAY

New Customers under each application

Customers for Automotive Applications

Major Customers

- BorgWarner
- BYD
- Chedda
- Delta
- Danfoss
- INEL
- Meta System
- Renault
- TDK ESBG
- Tesla
- Varroc
- Valeo
- Woori
- ZF Friedrichshafen AG
- Valeo
- Mahle Electronics
- Liteon
- Kristronics
- Chery
- LG Magna
- Tronico
- GE
- Flextronics international



Major applications:

- On Board Charger (OBC) & Wall Chargers
- HV DC-DC Convertor & Power Conversion System (PCS)
- HV Air conditioning & Climate control system
- HV heating systems
- Battery Management system (BMS)
- Capacitor Discharge Ignition (CDI)

TPM Declaration

Our steering committee has organized TPM pledge function on 16th February 2016. Our top management unveiled and signed the TPM pledge. This function brought a major focus to start and participate in TPM activities. Also, we embraced this function to publish and distribute our TPM pocket booklet to all employees.

Top Management unveiling and signing the TPM Pledge on 16 Feb 2016

TPM Kick- Off on 31st May 2016

After successful completion of Manager Model Machine activities for 4 Machines, TPM kick –off function was performed on 31st May 2016, these are the glimpses of the function. The enthusiastic MMM teams shared their experience and results with great proud and conviction. Our Management declared TPM kick off across all plant.

1. Audit of Manager's Model Machine
2. Customers, suppliers visit to MMM

1. Inauguration by top Management
2. Message on need and importance by President

1. MMM presentation by Manager(machine leader), sharing experience & achievements
2. Guidance from Exec Chairman Mr. H S Banerjee

TPM Policy

We derived our TPM policy which gives overall direction to achieve operational excellence, with emphasis on achieving objectives like Zero accident, zero defect, Zero breakdown and Zero loss. Major initiatives/ drive is also mentioned to achieve these objectives. In line with requirements of TPM Special award activities, we revise our TPM policy.

TDK India Private Limited

Aluminum and Film Capacitors Business Group, Nashik

TPM Policy

We, at TDK India Private Limited Nashik, aim to be the 'Most Preferred Supplier' of 'electronics components' to our Customers. We will achieve this by designing, manufacturing and supplying innovative products of 'highest quality at competitive cost' by achieving 'Operational Excellence' through TPM.

We shall strive for the highest level of Operational Excellence and thereby customer satisfaction by targeting

- **Zero Accident**
- **Zero Defect**
- **Zero Breakdown**
- **Zero Loss**

By

- **Providing 'Safe and Healthy' working environment**
- **Strengthening '5S' principles**
- **Creating a 'Culture of Ownership'**
- **Eliminating waste and non value-added activities**
- **Improving 'Reliability and Maintainability' of machines and equipment**
- **Deploying new Processes, Technologies and Digitalization**
- **Widening and Deepening of TPM pillar activities**
- **Reinforcing the culture of 'Continual Improvement' through 'Total Employee Involvement'**
- **Making TIPL, Nashik a 'Great Place to Work for'**

Date: 03/08/ 2015
Rev 1: 13/12/ 2018
Rev 2: 17/09/2024

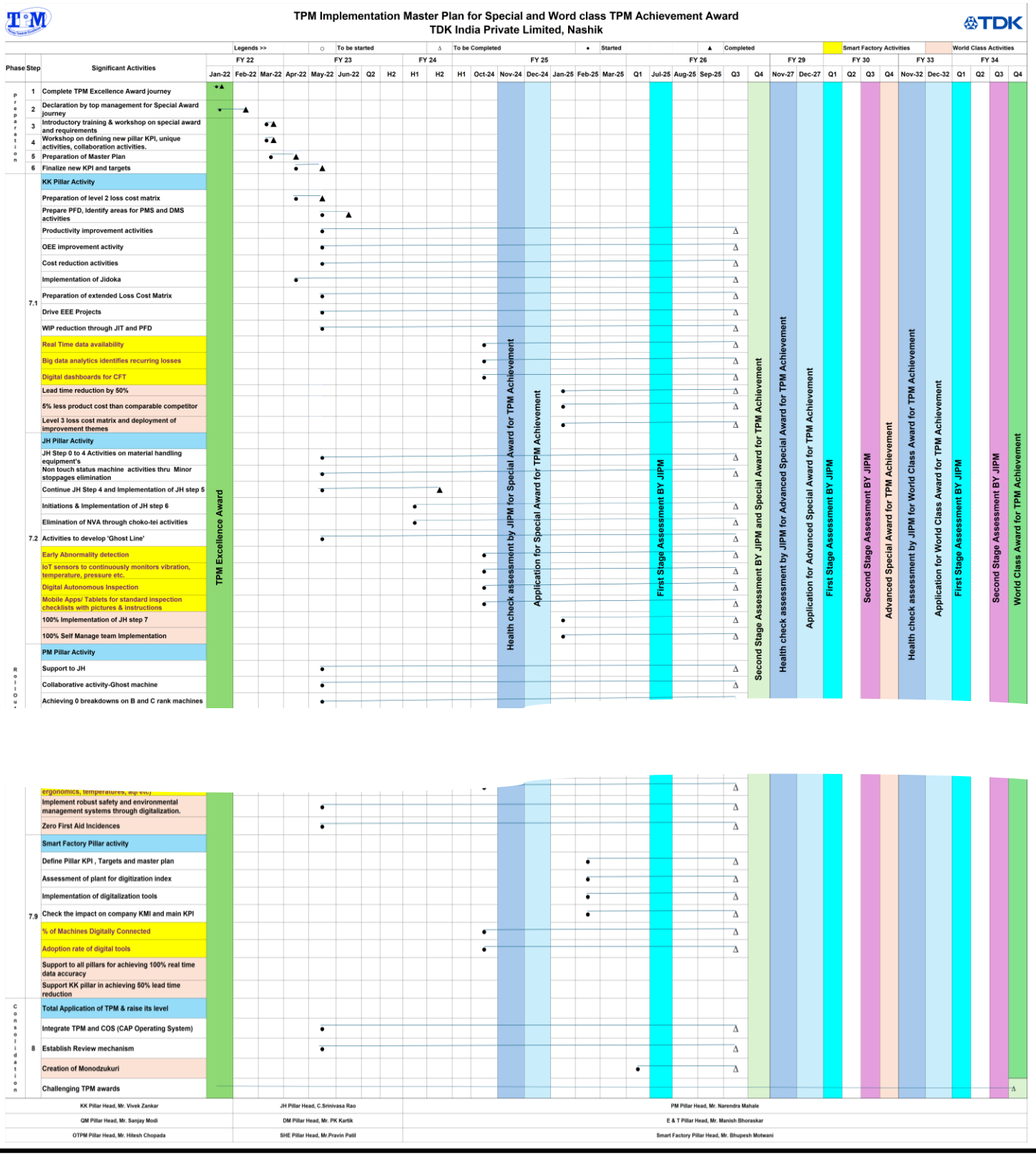
Prabal Ray
Chairman and MD
TDK India Private Limited

Target Setting

Category	KPI	UOM	Better	BM 1 FY16	BM 2 FY 22	Target FY 23	Target FY 24	Target FY 25	Target FY 26	Target FY 27	Target FY 28
P	Sales turnover	Mio INR	↑	6010	8290	9260	9260	9630	10038	10540	11068
	Operating profit	%	↑	8.3	11.5	13.4	13.4	11.4	9.8	10.5	11.2
	CAGR	%	↑	5	5.5	5	5	5	5.3	5.2	5.2
	Productivity (Plant)	Output (KINR)/Man -hrs.	↑	2.7	4.0	4.0	4.2	4.4	4.5	4.6	4.7
	AWS Assembly OEE	%	↑	81.8	86.0	86.5	88.0	89.0	90.0	92.0	93.0
	PC Winding OEE	%	↑	67.0	86.0	86.5	87.0	87.5	88.0	88.5	89.0
	Metallizer OEE	%	↑	63.0	80.0	80.5	81.0	81.5	82.0	82.5	83.0
	PC Metal Spray OEE	%	↑	78.0	84.5	86.0	87.0	88.0	90.0	92.0	93.0
	DTS Testing OEE	%	↑	83.0	86.0	87.0	88.0	89.0	91.0	92.0	93.0
	Breakdown Occurrences	Number	↓	1050	196	150	135	105	95	85	75
Q	Number of customer complaints	Number	↓	40	6	0	0	0	0	0	0
	In house Rejection	%	↓	3.0	0.9	0.6	0.6	0.6	0.6	0.6	0.6
	Quality Score	Grade	↑	B &C	A (≥90%)	A (≥90%)	A (≥90%)	A (≥90%)	A (≥90%)	A (≥90%)	A (≥90%)
C	Cost index - PC Unit (PFC)	Rs /Pc	↓	1003	994	945	897	852	827	802	777
	Cost index - DC Unit	Rs /Pc	↓	3.34	2.91	2.76	2.62	2.49	2.41	2.34	2.27
D	Customer Delivery Reliability	%	↑	93	95	95	95	95	95	95	95
	Mfg. Lead time (LS 27.5)	Days	↓	-	18	16	14	10	8	7	6
	Supplier Upgradation Index	%	↑	-	55	60	65	70	71	72	74
S	Number of work-related accidents requiring days off work	Number	↓	0	0	0	0	0	0	0	0
M	Number of Employee Suggestions	No. / Person / Month	↑	0.12	1.33	1.50	1.75	2.00	2.00	2.00	2.00
E	Environment Protection Index	%	↑	71	95	100	100	100	100	100	100

TPM implementation Master Plan

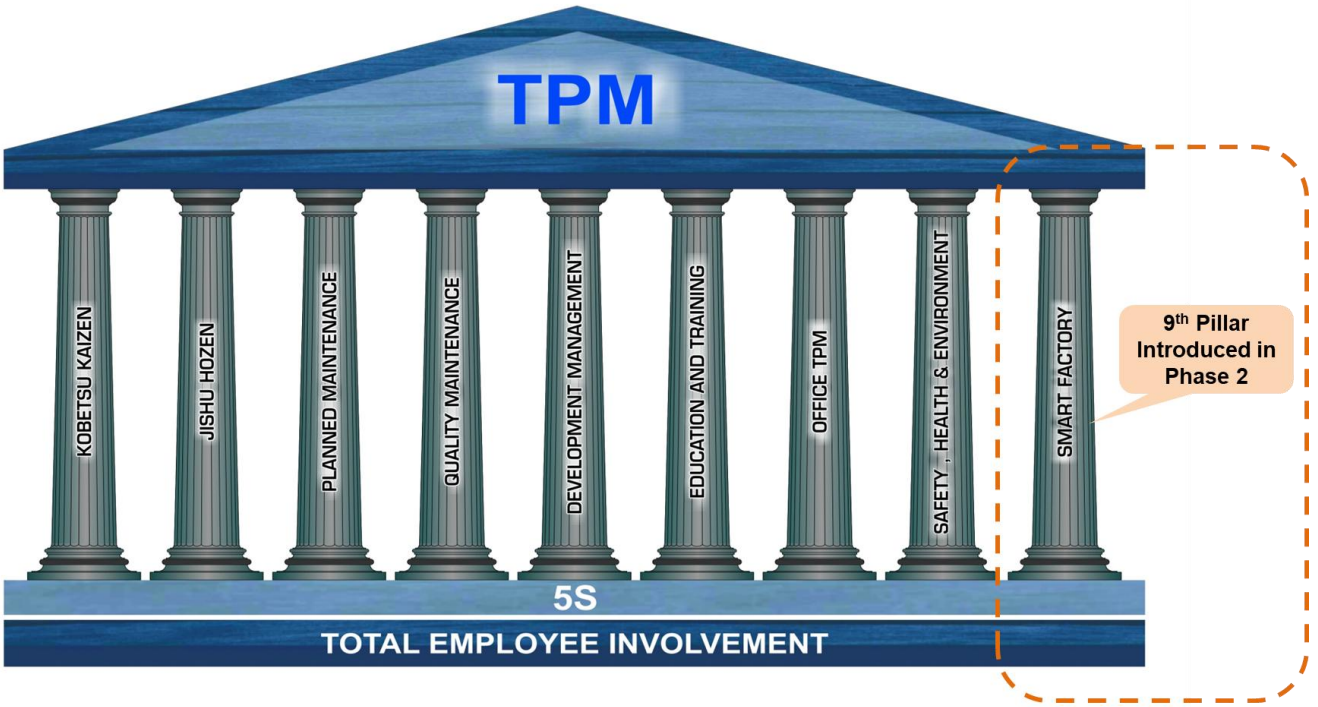
This is our TPM 9 pillar implementation Master Plan. All the important milestone, activities and timeline right from declaration of TPM, TPM Kick-off, Health check assessment, JIPM First and Second stage assessment of TPM Excellence award, Special Award as well as World class TPM activities (highlighted with light orange color) and SF Activities under each pillar (highlighted with yellow color) are mentioned.



TPM Organization Structure, TIPL- Nashik

This is our TPM Organization Structure at TIPL- Nashik. After achievement of TPM Excellence Award. In Phase 2, A new pillar has been introduced as 9th Pillar **"Smart Factory Pillar".**

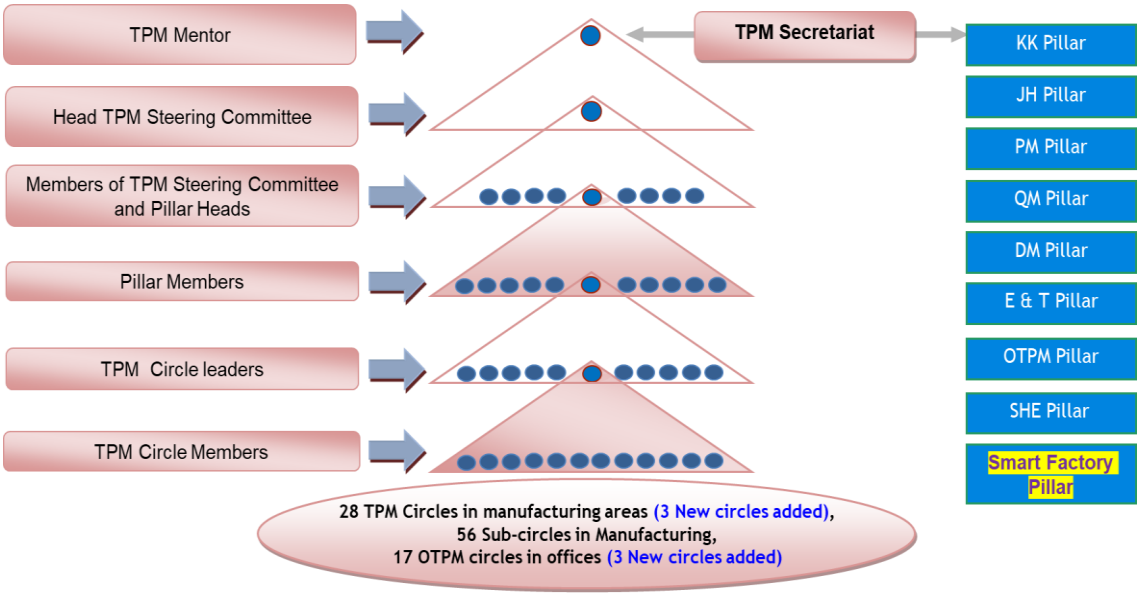
Below are the details shared about our TPM House, Our Mentor, TPM steering committee head and all 9 Pillars heads. Each Pillar has Dy. Pillar and Pillar members from various functions.



TIPL Organization Structure

TPM Pillar Organization Structure

We have defined TPM pillar Organization structure, roles and responsibilities to drive TPM activities, shown as below:



Across the plant, we have formed total 28 TPM Circles (New 3 circles added) and 56 sub-circles in manufacturing and 17 TPM Circles under Office TPM (3 New circle added).

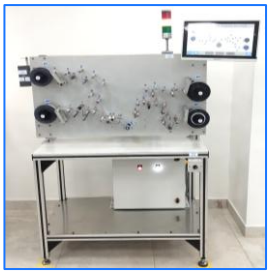
Technical Training and DOJO Center

Following to excellence award we upgraded our technical training center by incorporating new training equipment. This enhancement aims to further develop the skills and knowledge of our staff and operators and supporting pillars. The newly added training resources in technical training center are as below.

Examples of DOJOs:

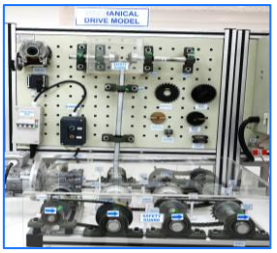
Safety DOJOs

Production DOJOs



Quality DOJOs

Maintenance DOJOs



TPM Gallery

Kaizen Gallery

TPM Excellence award - Final Assessment

TPM First Stage and Second Stage Assessment was conducted by JIPM in virtual mode in June 2021 and Dec 2021. We were declared Successfully cleared the assessment and achieved TPM Excellence award by JIPM in March 2022.

Below are the glimpses of schedule A and schedule B presentations presented to JIPM assessors, **Nomura San and Shoji San**. We received valuable inputs from them on our activities which helped us to improve further.

Schedule A Presentations




Schedule B Presentations




Online Assessment by Japanese Auditors from JIPM on 21st Dec 2021

We successfully cleared the assessment and achieved TPM Excellence award from JIPM in March 2022.

Documents submitted to JIPM:

- TPM Activity Report
- Schedule A presentations
- Schedule B case study presentations
- Additional information to activity report
- Photos of TPM activities


Unveiling TPM Award at the hands of Top Management
28th April 2022

TPM Special award - JIPM First Stage Assessment

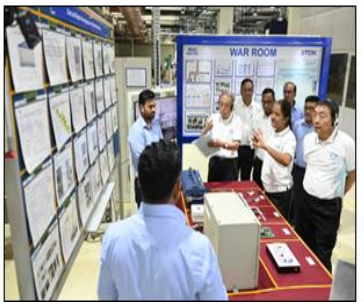
TPM Special Award First Stage Assessment was conducted by JIPM on 11th July 2025. We were declared Successfully cleared the assessment by JIPM Assessors Prof. Nomura San and Ono San.

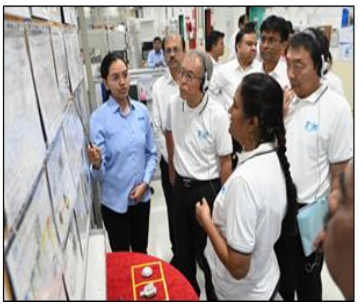
Schedule A Presentations




Schedule B Presentations







Future plan for World Class TPM Achievement

TPM Award 2025

TPM Award Assessment Achievement Sheet

Company & Plant name	**TDK India Private Limited, Nashik**
TPM Slogan/Objectives	**Achieving Manufacturing Excellence Through TPM**

Category	KPI	UOM	Better	BM 1 FY16 Kick off	BM 2 FY 22 Actual TPM Excellence Award	Actual Status YTD Dec 2025 (FY 25) TPM Special Award	Target FY 2026
P	Sales turnover	Mio INR	↑	6015	8292	7345	10038
	Operating profit	%	↑	8.3	11.6	8.3	9.8
	Productivity (Plant)	Output (KINR) / Man -hrs	↑	2.4	4.1	4.2	4.5
	AWS Assembly OEE	%	↑	81.8	85.8	89.0	90.0
	PC Winding OEE	%	↑	67	83.5	88.0	88.0
	Metallizer OEE	%	↑	63	79.2	79.1	82.0
	PC Metal Spray OEE	%	↑	78	84.6	89.2	90.0
	DTS Testing OEE	%	↑	83	85.8	89.0	91.0
	Breakdown Occurrences	Number	↓	1050	196	103	95
Q	Number of customer complaints	Number	↓	40	6	2	0
	In house Rejection	%	↓	3	0.9	1.0	0.6
	Quality Score	Grade	↑	B & C	A	A	A
C	Cost index - PC Unit (PFC)	Rs /Pc	↓	1004	994	937	827
	Cost index - DC Unit	Rs /Pc	↓	3.3	2.9	2.4	2.4
D	Customer Delivery Reliability	%	↑	93	95	98	95
	Mfg. Lead time (LS 27.5)	Days	↓	-	18	14.0	8
	Supplier Upgradation Index	%	↑	-	55	72	71
S	No. of work-related accidents requiring days off work	Number	↓	0	0	0	0
	No. of work-related accidents not requiring days off work (Minor & First-aid accidents)	Number	↓	2	1	0	0
M	Number of Employee Suggestions	No. / Person / Month	↑	0.12	1.33	1.37	2.00
E	Environment Protection Index	%	↑	71	100	100	100

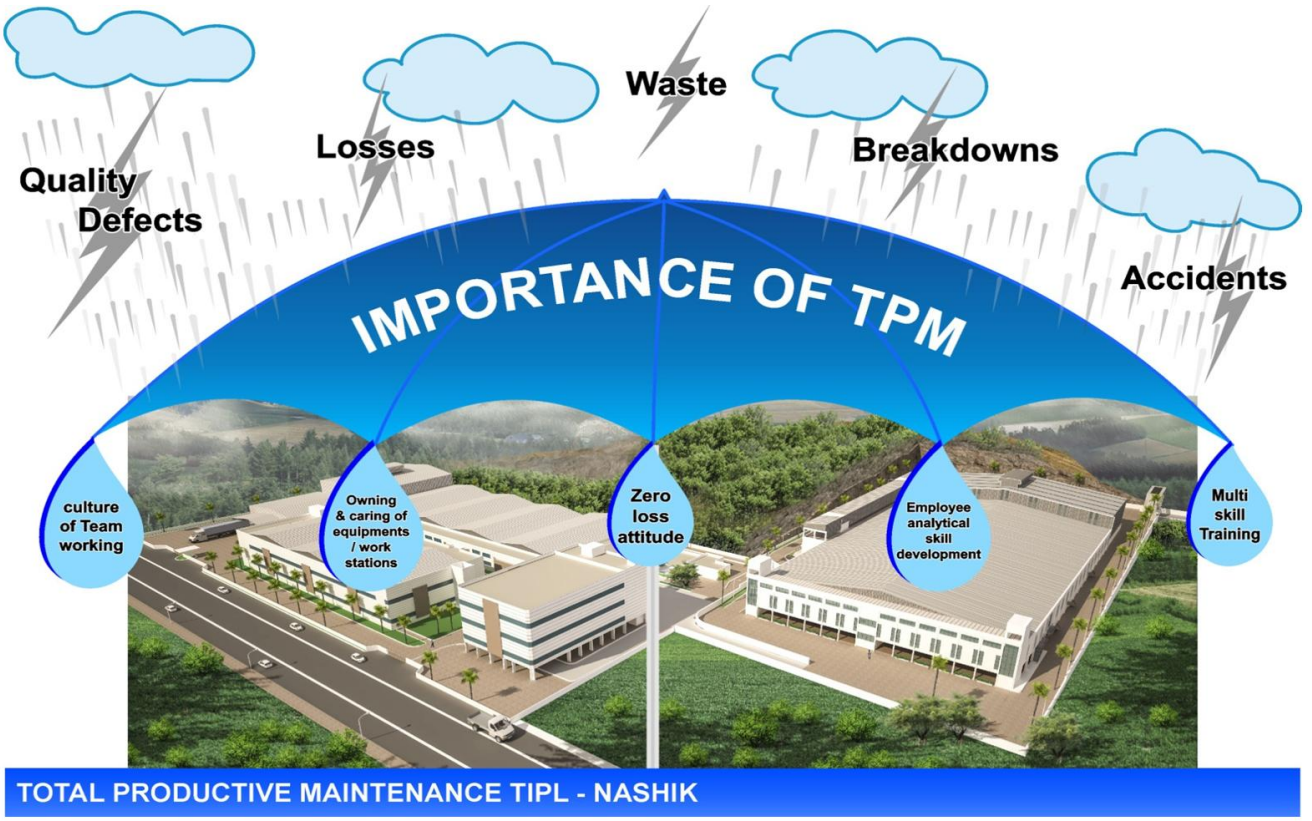
Other

1. Do you have a program where all employees can participate in TPM?
Yes, We ensured “Total Employee Participation” through TPM Pillar and Circle structure in manufacturing as well as administrative areas. Progress is ensured through structured meetings and review mechanism.

2. Do you have a program allowing employees to be recognized their achievements?
Yes, We have defined “TPM Reward and Recognition policy”. We recognize our employees for their contribution in 5S, Kaizen, TPM circle etc.

3. Are top management involved in the audit/verification of completion of TPM pillar steps?
Yes, Top management is involved in training, coaching as well as in JH step completion audits on Gemba.

4. Are all pillar activity boards displayed and reviewed by top management?
Yes, we have displayed TPM gallery, Kaizen Gallery, 5S progress display board as well as TPM circle activity board for all TPM circles. These visual management boards help our pillar and circle members for meetings as well as for top management reviews.



Journey Towards Excellence Continues..!

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