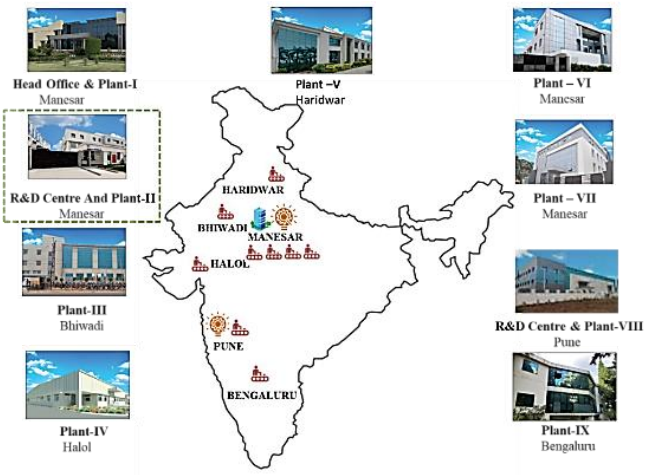
Company Name: Napino Control Systems Private Limited

Sector – 8, IMT Manesar, Haryana, India

1.0 Group / Company / Plant Profile:

1.1.1 Napino Group Profile:

Napino has grown from success to success since its foundation in the year 1997. A proud contributor to the progress of the Indian Auto Industry, the success of Napino lies in the ability of the organization to seamlessly adapt to the requirement of its clients through aggressive developments in technology and design.



Napino is having turnover of more than $ 200 million with nine Plant across India and 2 R&D centres in Pune & in Manesar. We have various joint ventures which are helping us in growing our product portfolio with more than 68 patents filed. Presently the company having its manufacturing plants across North, West and Southern part of India. The company is supplying its products to other countries such as North America & Europe as a tier 2 supplier.

1.1.2 Company Profile - Napino Control Systems Pvt. Ltd.

Napino Control Systems, a joint venture between **Napino Auto & Electronics Ltd.** and **Vitesco Technologies** formed in the year 2017, is a strategic partnership with an aim to provide System Solutions in the field Electronic Fuel Injection Systems and Electrified Drive Systems for two-wheelers.

The plant has a turnover of $ 48 million. Its manufacturing facility area is 1388 Sq. Meter. Located in IMT Manesar about 15 Kms from Gurugram City. It is IATF 16949:2016, ISO 14001:2015 and ISO 45001:2018 compliant and catering to world largest two-wheeler maker.

1.2.1 NCS product range:

Currently, there are three major parts in multiple models is being supplied and EV product is planned to be added by next year.

Capacity / Annum

1. **Throttle Boady Assembly:** 3.28 million
2. **Inlet Pipe Assembly:** 3.09 million
3. **Fuel Delivery Module:** 2.46 million

Throttle Body Assy
Integrated solution of programmed ECU and Throttle body

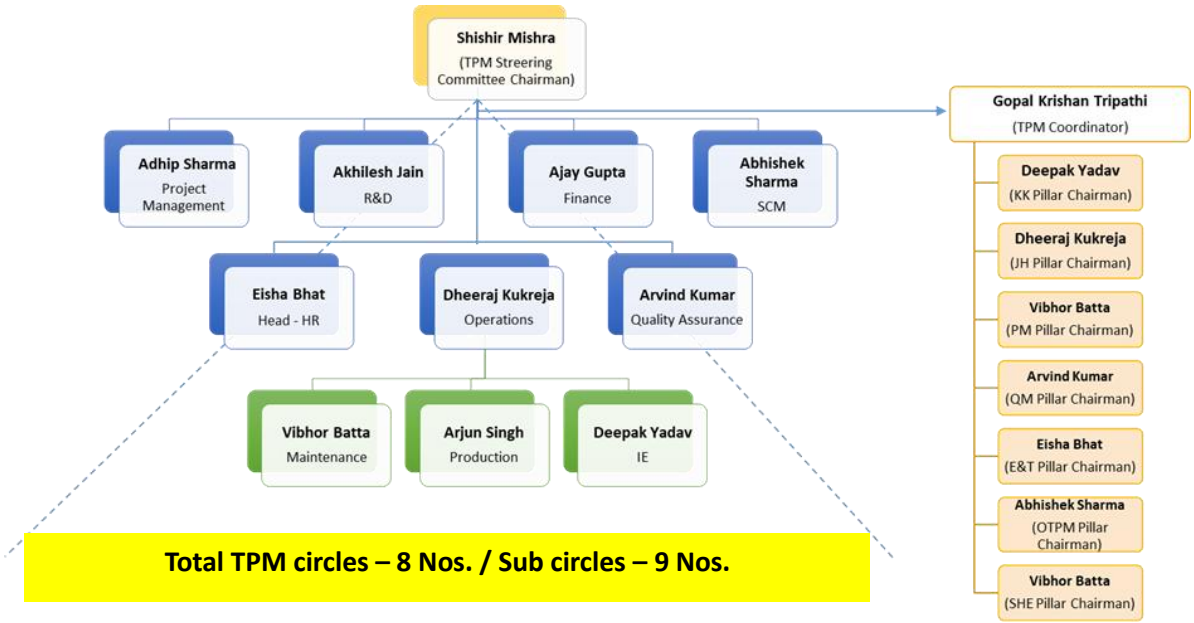
Inlet Pipe Assy
Combination of Injector and inlet pipe

Fuel Delivery Module
Combination of Motor and PRV system to supply pressurized fuel to Injector

1.2.2 Process Technology:

A semi-automatic assembly line with robotics and precision drives to produce electronic fuel injection kits with ECUs, using advanced methods like horizontal potting, selective soldering, and end-of-line testing for quality assurance.

1.2.3 Management Organization structure:



Total TPM circles – 8 Nos. / Sub circles – 9 Nos.

1.2.4 Staffing structure:

Employee Category	Total
Sr. Manager & Above	9
Staff	51
Operators	74
Total	**134**

Shift Timing:

- General Shift - 0830 – 1700 Hrs.
- A Shift - 0600 – 1430 Hrs.
- B Shift - 1430 – 2300 Hrs.
- C Shift - 2300 – 0600 Hrs.

2.0 Milestone on the Journey of Manufacturing Excellence

2.1 Reasons for adopting TPM:

External Factors - The Competition in Globally & Domestic market is growing, Fluctuating market demand, Growing Customer requirements & expectations, Improve Supplier rating by customer, Zero customer complaints, Compliance of legal & regulatory requirements.

Internal Factors - Challenge with us is unreliable machines resulting in high maintenance cost and rejections. Also, operatives have low skill level and experience. Year on Year Labour and other costs are on increase. Improve operational efficiency to reduce manufacturing cost.

Need for TPM - To meet these challenges, it is essential to improve Productivity and Quality with reduced Cost. It is felt that systematic approach needs to be adapted, and cultural change needs to be embraced. TPM journey started being the only solution.

2.2 Plant major activities done since TPM journey start:

Our TPM journey started with declaration by Top Management in Aug 2021. On successful achievement of Manager Model Machine results, Kick Off was done in Dec 2021. TPM activity was spread across plant starting with trainings and carrying out 7 pillar activities. During the journey, we established DOJO Centre & Technical Training Centre with models for 6 axis training.

TPM journey facilitated to get us various awards from CII such as Strong commitment for TPM award, Significant Achievement of TPM award.

3.0 Benefits Achieved

3.1 Tangible benefits:

- Improve overall OLE from 73.2 % to 97.6 %
- Productivity improves by 40%
- Manufacturing cost reduced by 35%
- Sales per employee improve by 35%
- Breakdown reduced from 192 to 3 numbers/annually.
- Overall inventory reduced by 38%
- ITR improve from 4 to 10

3.2 Intangible benefits:

- Approach changed to, I Operator, I Maintain machine Ownership
- Enhanced employee Morale due to relaxed and meaningful workplace
- Shift in approach towards Root Cause Analysis to eliminate the problem.
- Enhanced Operator Capability to carry out minor repairs in machines/tools.
- Reduction in repeated failures / defects due to Analytical Capabilities development in employees.
- Teamwork approach taking deep roots for continuous improvement activities.
- Enhanced Job Satisfaction

4.0 Key of our Manufacturing Excellence

With the experience gained through TPM activity, we intend to continue following in future.

- Total Employee Involvement through participation in Circle Activities and giving suggestions for continuous improvements & employee engagement activities.
- Employee trainings programme to enhance analytical & logical approach at all levels.
- Sustenance of all pillar activities and go for award for excellence in consistent TPM commitment.

5.1 Achievement Record:

Category	Index	Unit	BM (TPM Kick off)	Actual Status 2024
S	Number of major accidents	Cases/ year	0	0
S	Number of minor accidents	Cases/ year	0	0
P	Productivity for Actuator	Parts/Manhours	8	15.4
P	Productivity for IMBIA	Parts/Manhours	33	42.3
P	OLE	%	73%	98%
P	Availability	%	96%	99%
P	Performance Rate	%	90%	99%
P	Quality Products Rate	%	85%	99%
P	Number of breakdowns	Breakdowns/ year	192	3
P	MTBF	Hour	792	16547
P	MTTR	Hour	1.60	0.36
Q	Number of customer complaints	Number/year	2	0
Q	In-line defect rate (scrap)	%	0.062%	0.009%
Q	In-line defect rate (rework)	%	15.34%	1%
C	Manufacturing Cost	Cost (Inr)/Unit	55	33.5
D	Production Lead time	Days	0.38	0.34
D	Delivery performance	%	100%	100%
S	Frequency rate	accidents with leave for 1 000 000 worked hours	0	0
M	Number of Employee Suggestions	Number/year	73	307

5.2 Serious Accident Index:

Category	**Index**	**Unit**	**BM** (TPM Kick off)	**Actual Status 2024**
S	Number of accidents requiring absence (accumulation of past 2 y)	Number/ Year	0	0