



Sphoorti Machine Tools – TPM-Trak Case Study

Company: Sphoorti Machine Tools Pvt. Ltd.

Problem: To improve productivity, to meet the increased demand and to lower overheads with existing capacity.

Context- Mr. R.K.Purohit, Managing Director, Sphoorti Machine Tools Pvt. Ltd expressed a problem in production that was hampering their productivity.

They had about 21 machines that were between 1 to 15 years old from different manufacturers and different CNC control makers like Siemens and Fanuc.

About the software:

TPM-Trak is an Industry 4.0 based machine monitoring system that gives you 24/7 visibility into the shop floor, improves OEE and profitability immensely. It tracks shop floor machines' activities, reports them directly to the owner through mediums like mobile phone, tab or PC across the world every time.

TPM-Trak real-time OEE improves operational efficiency by using the latest technologies available under Industry 4.0 to achieve optimum potential during production.

- Higher speed: Fewer and faster rework loops let the shop ship more parts faster. In many situations, speed is a higher priority than cost.
- Higher efficiency: Together, better utilization of machines and better optimization of production schedules enable the shop to achieve higher throughput with fewer efforts.
- Higher quality: Knowing the details of scrap rates creates opportunities for the shop to resolve problems earlier and use TPM-Trak solutions to increase the overall yield of quality.

- Higher profitability: Less scrap reduces costs, improving efficiency and throughput helps the shop manage higher workloads and serve more customers.

Solution:

Experts from AmiT studied the shop floor and suggested two approaches to solve the problem.

A. One using a combination of two types of hardware namely TCS-PLC with an HMI (used 24 V DC inputs), and TID (used Macro-B feature and RS-232 communication).

b. Another methodology for implementation was TCS-PLC with an HMI as a universal interface to provide a single user experience for all the machines.

After weighing costs and operator skills, the client initially selected three ACE Designers' machines which ranked as the best performing OEE machines for TID implementation as a pilot. TPM-Trak device was connected to these machines providing data through a LAN to a centralized computer monitored by a coordinator.

Results:

Within the first three weeks of TPM-Trak implementation, Sphoorti Machine Tools Pvt. Ltd. discovered that manual OEE calculation of 84% was an optimistic projection whereas actual OEE is 58% measured using TPM-Trak real-time data. Further, the real insight of real-time data was hands-on and they randomly could easily correlate and validate the auto-generated TPM-Trak reports and analysis matching the real situation at the shop floor.

The dashboard and reports in real-time gave enough data for quick actions and correction to eliminate or avoid further problems and save precious production loss hours.