A Predictive Quality | Overview

SEIFERT TECHNOLOGIES, INC.

Seifert Technologies's predictive quality *solutions helps in early detection of operational deviations and reduced time to discovery. Improved root cause and qualitative failure mode analysis helps improve the right first time % of a manufacturing line. This is both for product and process quality of your operations, incoming raw material (RM) quality from various sources and finished goods (FG) dispatch to customers.*

- Root cause analysis for ascertaining key failure drivers, e.g., Man, Machine, Method, Material
- Continuous monitoring of relevant drivers to enable real-time decision making
- Deployment of predictive models to anticipate potential future problems and continue monitoring the process deviations on real-time basis
- Process optimization by leveraging real-time response optimizer to aid decision making. This will also help in optimizing the various parameters impacting the final quality of the product
- Finalization of the standard operating procedures according to new process parameters and conditions. Also help in setting the control limits

Key Performance Indicators

1. Reduction in planned downtime
2. Improve initial quality
3. Overall reduction in scrap
4. Realtime quality monitoring
5. Predict & prevent quality issues

B Use Case | Metal Forming

SEIFERT TECHNOLOGIES, INC.

Auto Parts Manufacturer (Stamping)

The client is a Tier I automotive parts supplier with approximately $10M in revenue.

Context/Challenge

- Client lacked real-time visualization across machines. KPIs were tracked manually on whiteboards and rolled-up to spreadsheets
- Long downtimes during die changes
- Safety concerns / challenges
- Quality issues with high scrap rate (up to 3K bad parts in a single run)
- Scheduling was largely a manual process that was constantly adjusted to meet production goals.
- Inventory tracking issues caused issues with raw material availability

Solution

- Seifert Technologies worked with the client team to develop a factory visualization solution using:
  - Data collection & visualization
  - Big data analytics including machine learning algorithms to provide predictive maintenance
  - Predictive quality solution using LiDAR sensors and video
  - Manufacturing process best practices consulting around processes & die changes
  - Inventory tracking system using RFID and barcode scanning

Foreseeable Benefits:

- ❑ 70% reduction in unplanned downtime
- ❑ Improved die change process from 4 hours to 1 hour
- ❑ 40% quality improvement
- ❑ Overall improvement in safety index (Less incidents per month)
- ❑ ROI achieved in one (1) month

C Customer Impact | Predictive Quality

SEIFERT TECHNOLOGIES, INC.

With manufacturing solutions from Seifert Technologies, Inc., you can improve your overall product quality and reduce defect rates with data-drive pareto analysis. You can also automate the complex task of visual quality inspections through video analytics that will digitize the process and provide you with unique insights.

Overview of Effort

- *Customer engagement process includes an assessment workshop & development of implementation plan*
- *Return on Investment allows customers to take a phased adoption approach while funding each phase based on savings*
- *Customer was able to mitigate the complexity (turn-key solution)*
- *Minor customization required*

New Resource Requirement

- *Limited customer resources are required during implementation*
- *No new personnel required to operate or manage the system. Machine operators needed small amount of training (~1 hour)*
- *No changes to existing business systems. Seifert has an integrate-first philosophy*

Long Term Care and Feeding of the Project

- *All changes and upkeep to system are included in Seifert's subscription model. No effort needed to make changes*
- *Changes are covered under the subscription model so no additional charge to change views*
- *Scale-up can also be handled under the subscription model, allowing customer to add machines on a $ per month basis*