

Client Reference

Manufacturing | Focused Improvement project addressing high failure rate of equipment

Background

Our client is a leading automotive manufacturer in South Africa. The client embarked on a journey to implement an asset management system based on the Pragma Way. One part of that system is Focused Improvement and structured problem solving.

A focused improvement forum was established where a dedicated team would meet weekly in order to identify and prioritise possible focused improvement opportunities.

A high focus was placed on maintenance cost of EC tools which may also have a high impact on product quality. Certain tools may only be repaired by certified OEMs situated abroad, which also require a longer lead time due to travel times and as a result more stock had to be kept of these parts in the store.

Client Quote

“By doing proper analysis of all EC Tools per station it could be determined which equipment failed the most and which tools were the high cost drivers. By investing in a small change in design of the tool payback was in two months compared to the costs of that tool over a year. Project was a big success and saved a lot of downtime resulting in more units being built.”

Mark Botha, TSS Assembly Maintenance Manager

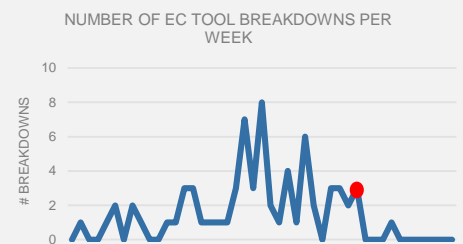
Key Challenges

- Poor data quality existed as not all work orders were booked on equipment level. Free text on work orders had to be analysed and work orders categorised manually.
- Root causes weren't apparent from work order data, but the high level analysis allowed the specialists to narrow down their focus on five stations where the failure frequency was highest.

Improvements

Based on the data gathered and further investigation on the line the top 5 issues were eliminated through:

- mechanical design changes
- software changes
- fault reporting optimisation, and
- asset care plan optimisation.



Value Add

Repair cost saving for three of the top five issues amounted to R1.42 million on an annual basis:

- AGV Line Station 2 | covers added to protect sensitive equipment and asset care plan optimisation - R120 000 cost saving
- AGV Line Station 3 | angle tool to allow for higher specification tool head to meet torque requirements - R1 000 000
- Marriage station | design change to prevent damage of connection during operation – R 300 000.

Additional savings include:

- Reduced downtime and increased availability allowing opportunity for increased production volume
- Reduced requirement for manual operation and quality impact.

Tools and Technology

- DMAIC
- Root Cause Analysis and Structured Problem Solving Tools
- Brainstorming/Fishbone diagrams
- Asset Care Plan Development/OMM
- SAP
- Client resources
- Training material

Pragma Intervention

- Data had to be processed, cleaned up and analysed in order to determine the focus of the project, ie. the five most frequently failing EC Tools and their locations. Further information gathering was facilitated and advised on by Pragma to ensure sufficient quality data was available for the root cause analysis.
- We monitored the performance of the equipment after the changes were implemented to verify its sustainability.
- Pragma's ACPD process was used and we advised on FMEA best practice in order to ensure optimal asset care plans.