Client Reference

Manufacturing | Automotive
Reduction in Rear Axle Area Downtime

Client Background

Our client is an icon worldwide in the motor industry and a leading manufacturer in South Africa. The manufacturing plant in East London, South Africa, currently produces the latest model of their luxury passenger vehicle. The management of our client embarked on a journey to implement a range of management systems based on the Pragma Asset Management road map. The aim is to mature all asset management key performance areas to a world class standard.

Key Challenges

- The Aggregates area was identified as one of the most unstable areas in the Assembly Shop and a large contributor to downtime as well as number of breakdowns. However, there was no clear understanding of which breakdown categories and technologies were the major contributors to these breakdowns. Furthermore, breakdowns appeared to be eradicate and no clear trends were immediately apparent.
- A cross-functional problem solving team needed to be created in order to align production and maintenance regarding the root causes of these breakdowns. After further analysis, according to the 80/20 rule (Pareto Analysis), the Rear Axle sub area was identified as the major focus area.
- The Rear Axle Area has a lot of manual operations and it would be important to put poka-yokes in place to prevent manual damage and address root causes rather than symptoms.

Our client has better control over breakdowns and appropriate escalation processes is in place in the Rear Axle Area. In year one, there was an average of between 60 and 70 breakdowns in a 4-week period. From Calendar Week 20 –23 in year two, there were only 39 breakdowns in the Rear Axle Area and a downtime of 36 minutes. (Decrease of 35-45% in the number of breakdowns).

Value Add

- Control has been gained with accurate tracking of both downtime and the number of occurrences.
- Problematic breakdown categories, sub-categories and technologies within the Rear Axle Area can now be identified leading to Focused Improvements.
- Clarity on asset data and failure data, specifically in the Rear Wheel Carrier Presses can now be used in FMEAs.
- Team work between Production and Maintenance have been established.

Pragma Intervention

- The first step was to gather Maintenance breakdown data from SAP PM in the Rear Axle Area.
- Next, Cell Tech Production Data from Bukela (Client performance management system) was incorporated in order to verify the major breakdown categories, sub-categories and technologies.
- After the major breakdown categories, sub-categories and technologies were identified, brainstorming was done in order to identify possible root causes for these breakdowns.
- Brainstorming sessions were documented in Fish-Bone and Cause-and-Effect Diagrams.
- Damage to proxies and other sensors was identified as the major breakdown category.
- Firstly proxy/sensor protectors were implemented, but after the proxies and sensors were still found to be damaged, the proxies/sensors needed to be placed at locations where manual damage would be prevented.
- Fixed field sensors were implemented in
- Calendar Week 22, 2016.

Tools and Technology

- SAP® PM
- Microsoft Excel
- Bukela Production Software
- Microsoft Visio
- DMAIC problem solving steps
- Fish Bone/Ishikawa Diagram
- Cause-and-Effect Diagram.